

**THE  
HISTORY OF THE CORPS  
OF  
ROYAL SAPPERS AND MINERS.**

**BY**

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**1853. CHOBHAM CAMP.**

- 1. Nature of the ground — Position of the sappers — Their strength — Quarters and cantonments — Equipment — Duties and services — The survey — Marking out the encampment— Forming tanks— Wells — Lakes— Construction of stables —Camp-kitchen— Oven — Incidental employments ; Royal pavilion ; Queen's road — Sentry-boxes — Post office and postal statistics — Intrenchments — Submarine mining— Passage of Virginia Water— Her Majesty's gracious acknowledgments of the conduct of the sappers in the operation— The second passage of the lake — Also of the Thames at Runnymede — Field-days — Inspections by the Queen— Breaking up the camp— Satisfaction of Colonel Vicars and Lord Seaton.**

**In common with the army, the royal sappers and miners furnished detachments for the camp at Chobham about four miles from Chertsey. The common where the encampment was formed was an extensive tract of waste, varied with hill and dale. The amplitude of the district, its freedom from enclosures, from wood or bush, or from barriers or hedges to mark the boundaries of individual or corporate properties, and its succession of swelling heights, well adapted it for the purposes of an instructional encampment, and for the campaigning evolutions of a concentrated force, assembled less for military parade and display than to realize in a degree some of the chequered difficulties and vicissitudes which fill up the hard and comfortless career of an army engaged in the active operations of war.**

**The camp was established on the concave edge of the ridge. Each end was advanced,**

while the centre with a sweep receded, giving to the position a curved line approaching the segment of a circle. The detachment of sappers was tented south of the 'Magnet,' the name given to the hill where the head-quarters were established, and next to the left of the Coldstream guards, close to the road leading across the common to Bagshot.

The line regiments which succeeded, fell back from the detachment. To be regimentally correct, the sappers should have been on the right of the Grenadier guards, but the position was chosen for the corps because it was central, prominent, and easily accessible to the troops requiring the use of entrenching tools and field implements. The division, consisting of a due proportion of cavalry, artillery and infantry, was under the orders of Lieutenant-General Lord Seaton, G.C.B. The sappers were among the first troops on the ground. As soon as it was determined to form the camp, the party at Sandhurst — one sergeant and twelve rank and file — was directed to suspend its services at the college, and remove to the encamping district. It commenced work on the 21st of April and ceased on the 7th of May, when it returned to the royal military college to carry out the concluding operations of the term. Lieut. Drake, R.E., commanded this party.

To make a hurried survey of the ground one sergeant and eighteen rank and file were detached from Southampton between the 27th of April and the 1st of May, who, as the service permitted, returned in sections to the ordnance survey. A small party detained at Windlesham for special purposes, in connexion with the military survey, did not quit the district till late in July. Lieutenant Stotherd, R.E., directed the detachment.

Colour-sergeant Henry Brown and twenty rank and file from Chatham, reached the encamping ground on the 9th of May. On the 13th following, this detachment was increased to a company (numbered the 2nd) of three sergeants and eighty-seven rank and file from the royal engineer establishment, under the command of Captain Lovell, R.E. Lieutenant and Adjutant Somerset from Woolwich, joined the company on the 14th of June. The whole were under the orders of Lieutenant-Colonel Vicars, R.E.

To diversify the operations, a pontoon train was ordered to be attached to the division ; and on the 20th of June, the sappers appointed for this duty commenced to move in detachments. The force consisted of drafts from the first, fifth, and eleventh companies detached from Chatham, and reached a total of 1 quartermaster, George Allan, 1 sergeant-major, William Read, 12 sergeants, 16 Corporals, 3 buglers, and 156 privates, 189 total, under the command of Colonel Harry D. Jones, assisted by Captains H. St. George Ord, G. Ross and W. M. Inglis, and ten subalterns of the royal engineers. The great bulk of the men arrived at Wellington camp on the 22nd of June, on which date the totals of the combined force of sappers counted 297 of all ranks.

A day or two after the pontoon operations at Virginia Water were concluded, the first company, with a detachment of the eleventh, quitted Wellington camp, and returned to Chatham the same day.

The second company at Chobham camp was relieved on the 22nd of July by the fifth company, with the greater part of the eleventh from the Wellington camp, and repaired that day to Chatham. The company was played from the ground by the band of the 79th Highlanders, who from good feeling volunteered to confer the honour ; and as it passed the tents of the 79th three cheers from the assembled regiment testified its esteem for the departing company. The total force then left for the field duties of the camp, exclusive of the surveyors, numbered 100 men of all ranks.

As some further pontoon operations were ordered to be executed, and the force at the camp was considered to be numerically inadequate for the duty, sixty-five non-commissioned officers and men were sent to the field from Chatham on the 25th of July, and after the completion of the work, they returned on the 28th to their destination.

The party from Sandhurst and colour-sergeant Brown's detachment were billeted at Sunninghill and Sunningdale. On Captain Loyell arriving with his company at Shrub's-hill, finding no billets or tents he stayed for three days in a barn at Bagshot Park House. On the 16th of May the company was for the first time tented on the skirts of Colonel Challoner's wood then on Sheephill, and lastly on the Oystershell-hill near the 'Magnet.' The division under Lord Seaton reached the encampment on the 14th of June, when in allusion to the appearance and exertions of the troops as they took up their ground, a leading journal of the day observed, "that the sappers and miners, probably the most intelligent and best-educated men in our army, make the least external show." The pontoon train was encamped about one and a half miles from Virginia Water, near the Wellington Bridge, from which the camp took its name. The detachment of sixty-five men furnished to assist in the formation of the bridge across the Thames at Runnymede, was billeted during its short stay at Egham.

The camp equipment for the Chobham company embraced five marquees, fourteen circular tents, one hospital tent for officers' mess, one for orderly room, one guard tent, and one store and ammunition tent, besides fourteen Flanders' kettles. For the pontoon train there were four marquees, thirty-four circular tents, two hospital tents for workshops and stores, one laboratory tent, and twenty-five camp kettles. Each man was supplied with a wooden canteen, haversack and blanket, but no bedding. Straw was afforded in abundance to sleep on. The men were distributed in parties of nine and ten to each tent, which permitted the senior non-commissioned officers to be provided with ample canvas accommodation, and some spare tents to be used for various incidental military purposes.

A detail of the duties and services performed by the sappers and miners in connexion with the encampment follows. In some of them they were assisted by small parties from the guards and the line. The senior non-commissioned officers were colour-sergeants Henry Brown, Noah Deary, and Timothy Sillifant, who throughout the service were indefatigable in their exertions and their skill and contrivance were on many occasions found very useful.

In the early stage of the preparations, Viscount Hardinge inspected the camp on Sheep-hill, and expressed in a few pointed sentences his satisfaction of the appearance of the field, and the steps taken to render the accommodation of the troops as comfortable as the resources of the district would admit.

It was deemed indispensable that a map should be provided of the country for several miles round the encampment, to guide the Generals in the choice of positions, manoeuvres, marches, &c. The district had been surveyed sixty years before, in common with the general survey of the south of England, and was drawn on a scale of two inches to a mile. The better to meet the present requirement, the plans were enlarged and drawn to a scale of four inches to a mile. All the improvements which had arisen within the last half century, were also supplied, and the original work corrected where necessary. This was done by taking magnetic bearings with a prismatic compass and pacing the ground. The distance examined and corrected, included an area of about 220 square miles, the cardinal angles of which were Chertsey, Wokingham, Farnham, and Guildford. All was carried out and completed between

the 1st May and 14th June. The principal part of the hills were sketched by Lieutenant Stotherd, assisted by four non-commissioned officers of the corps, who, although heretofore wholly employed in the operations of a civil survey, were without any previous practice in the art made to turn their talents to account in military sketching.

The survey — comprised on four large sheets — was compiled, lithographed, and coloured under the direction of Captain W. D. Gosset, KE. Corporal Sinnett drew the 12-inch plan of the encampment furnished for the use of Colonel Vicars. A special survey of the ground at Aldershot Heath was also made and plotted on a scale of six inches to a mile, by sergeant Spencer and Corporal Macdonald. The soldiers most conspicuous for their usefulness in the Chobham survey were— Sergeant Benj. Keen Spencer ; for surveying, levelling, and hill sketching. Corporal William Jenkins; trigonometrical observations, levelling, and traversing. Second Corporal James Macdonald ; traversing and surveying. Lance-Corporals Michael Daveran and Valentine Sinnett ; hill sketching, surveying, &c. Sinnett was the best sketcher in the party. Marking out the encampment was done by the sappers under Colonel Torrens, assistant quartermaster-general, by driving pickets into the ground in the places selected to mark the salient points of the boundaries, to be occupied by the several regiments.

The springs and watercourses were sought for and collected into small reservoirs or basins, at sites as convenient for access as practicable. In some places small trenches were excavated, to afford easy channels for conveying the water to the terraces. These tanks were for domestic uses. Attached to them were larger ones for washing purposes, which were filled by the surplus water from the drinking reservoirs through the agency of small troughs, fixed near the top of the partitional embankments.

From the dipping and trawling of so many utensils of different kinds into the tanks, and the constant washing of the water against the sides of the embankments, it became very dirty and disagreeable.

To obviate this, pumps were fixed in the tanks, large wooden troughs were added to them to convey the water to the recipients, and sentries were posted over the reservoirs to compel all parties to take the water from the approved contrivances instead of resorting to the objectionable mode which had been attended with so much discomfort.

Where springs could not be found in sufficient number, wells were sunk to afford water for the troops. Some of these answered excellently, and yielded a good supply. In several instances the men were interrupted in the service by the presence of moving quicksand, which prevented them digging to the depth they otherwise would have done. These wells, nevertheless, were ultimately made available for use. To keep the ground from being undermined by the sand, rough sap rollers were at first constructed and sunk, but as these were found inadequate to meet the difficulty, on account of the sand oozing through the interstices of the brushwood, some barrels were securely fixed at the bottom, which at once offered an effectual resistance to any encroachment, and secured a serviceable quantity of good clean water. Into several of the wells two or three bushels of pebbles and shells were thrown to purify the water in its infiltration. Wells cased or lined with fir poles — an expedient first resorted to — were found not to answer, as the water collected in them tasted disagreeably of an impregnation of turpentine. Many failures in seeking for water occurred. Three or four in elevated parts of the field were sunk through a stratum of sand and clay to the depth of thirty-five feet without success. Two artesian wells were also bored late in July,

one to a depth of sixty feet and the other to thirty-five feet, without any beneficial result.

Tradition or experience was of little avail in selecting places to sink the wells with anything like certainty of finding water. Several ingenious suggestions were made and acted on with no better result. All depended upon chance, and to make up for the deficiency from this source, greater attention was paid to gathering the nests of springs, and opening up courses and channels for their unfettered issue into reservoirs. Commonly, depths beyond thirty feet were obtained without the use of the windlass, or the application of materials to support the sides.

Many of the men in these experiments turned out expert welldiggers, and executed the heavy duty with energy and coolness.

The formation of lakes was effected by damming up some small brooks and rivulets, in the valleys which emptied themselves into Virginia Water. The dams were raised on piles formed from the ends of fir poles, which, to make a firm foundation, were driven into the ground about ten or fifteen feet wider at the base than the road was at the top. The sides were built with good sods, and filled in with the best soil that could be gathered on the spot. Where the bog was unstable, it was replaced by stiff clay, which was puddled. In this way two or three fine expansive sheets of water were formed, which were extremely useful for the cavalry horses ; and a safe and ready passage was also afforded for the troops across some valleys and morasses over the roadway of the dam. One sheet was behind the cavalry stabling on Egham Common, and the others, named "The Great Arm" and "The Little Arm," were at the base of Black-hill and of Sheep-hill.

The stables were constructed of a uniform width, but the length varied according to circumstances. For a stable of six horses, the dimensions were twenty-seven feet by thirteen feet six inches. The uprights or stanchions were nine feet long, three feet of which were driven into the ground and well rammed. A wall-plate was then fixed to the stanchions at the height of six feet from the ground. The rafters were made of rough poles, secured by a collar-beam four feet from the top, and then nailed firmly down on the wall-plates, every alternate one being strapped with hoop-iron. The centre was supported by a king-post rammed three feet into the ground, and besides being nailed to the collar-beam, was tied for steadiness and stability at the top with rope-yam. Poles were also fixed and secured on either side and at the ends, which, with the doors, were thatched or wickered with fir branches, compactly intertwined.

The whole was roofed with canvas, and stayed by guyropes. The canvas was made under contract, in pieces to cover a stable for six horses, but after a few days' rain, the pieces shrunk about sixteen inches, and caused throughout the period of the camp much inconvenience to the horses. The stabling was made to accommodate 1,800 horses at an expense of nearly 1,000£. An experimental stable of the above form was run up in two hours and a quarter by twelve men, under sergeant George Pringle, directed by Lieutenant Drake, in the presence of the Commander-in-Chief — Viscount Hardinge — who expressed his satisfaction both with the exertions of the men and the suitability of the construction.

The camp-kitchen for the sappers was built six feet wide and ten feet long, and was approached by a ramp. The flues were ten feet long and one foot wide, with a space intervening through the entire length of twenty inches, which was six inches deep in front and lessened to nothing as it neared the neck of the chimney, for the purpose of facilitating the action of the air and producing a rapid draught. Its sides were built up with sods to the height

of fourteen inches, and the top was covered over with the blades of broken shovels. Intervals of nine inches were left to receive the camp-kettles. A trench was dug round the kitchen from which at one end rose, to the height of above six feet, a mud stack containing two distinct chimneys shaped into ornamental pots. At the other end, the two fires were lighted. The flues were kept independently of each other, and, with the chimney-stack, were plastered both inside and out with clay. This expedient gave to the kitchen a neat appearance, and sufficient durability to stand the wear and tear of constant use. Sometimes it was converted into an oven by removing the kettles, and temporarily closing the open spaces with sods. The kitchen cooked for 100 men. Though somewhat troublesome to inexperienced men to construct, compared with the old Peninsular range adopted by some regiments in camp, it was a decided improvement both in form and utility, inasmuch as it economised fuel, received with readiness the few appliances used in military cooking, and enabled the culinary art to be carried on with more alacrity and on a larger scale.

An oven was also constructed after the model of the kitchen with one flue and chimney only. It was built with bricks made on the spot, from clay in the vicinity of the camp. Amid so much rusticity and so many rude campaigning inventions, this oven, from its neatness and success, was much admired. Sergeant Timothy Sillifant, an ingenious mechanic, designed both the kitchen and the oven, and superintended their construction. Some incidental services executed by the sappers were of a character which it may not be considered inappropriate to notice. So various were their duties and so frequent the calls for their assistance, that the encomiums passed upon them after a full test of their usefulness were not extravagant when it was said that in all their capacities, from the driving of a nail to the marking out of a fortification, they seemed to be equally as perfect "as if each service was their special and sole vocation." They repaired and adapted the poor-house at Burrow Hill for a general hospital, erected a flag-staff for displaying the royal standard, enclosed a large area of ground with a canvas wall seven feet high, within which were pitched marquees and different tented conveniences for the use of the Queen and Her Majesty's Consort and guests, and watched and managed the tent-ropes of the royal pavilion, &c., within the compound. Here likewise they erected a cookhouse of brick, after the form of their own kitchen, and cut a road about two miles long, from Colonel Challoner's plantation to the "Magnet," as a carriage drive for Her Majesty. The road led across one of the artificial sheets of water and at either side of this causeway was fixed a temporary railing, which gave it an appearance of strength and completeness. Contrivances were also adopted for permitting the water to run freely through the embankment so as to insure the stream rising to the same level at both sides of the bridge. The road was, moreover, a useful one, for in manoeuvring the troops it was sometimes employed to accelerate their movements, and the passage across it formed a grand feature in the reviews. It was called the "Queen's Road," and the dam across the sheet of water was dignified with the name of the "Queen's Bridge."

The sappers also attended to the pitching and adjusting of the marquees of some of the staff officers, drained the camp ground, taught soldiers of the line the readiest methods of effecting these duties, and built several sentry-boxes. One was erected under the superintendence of a French captain, of rough poles driven into the ground in a circle, after the manner of the initial gabion. In front, one stake was omitted for the entrance. The box was built to the usual height, was covered in with a conical top, and the whole was thatched with straw in amrses, which gave it in the distance when the sun was shining upon it, the semblance of a richly-flounced dress. Another box of this kind revolved on a pivot at pleasure, to screen the sentry from wind or rain ; and after the camp was broken up, it was given a place in the grounds of Colonel Challoner. A third was run up by private James Queen, which, from its

mechanical pretensions, was applauded as a work of taste, but could never be successfully imitated unless by talented workmen accustomed to build with neatness and exactness. The structure was of a mural character and defensible, having loopholes in its sides and rear. An heroic bust, made of clay by the private, who had shown some aptitude as a sculptor, was to have surmounted the box, but it was unfortunately destroyed by some of his comrades, during an excited criticism upon its merits.

"Much as we admired," wrote a London daily journal, "the universal utility of the corps, we thought we had seen the extent of their capacities, but when looking a little more into the variety of their employment we found them in a new sphere, and discovered that Corporal Richard J. Letton had been, under Mr. Smith, discharging the details connected with the Post-office with the usual off-hand success which seems to pertain to the corps." The receiving-office at the "Magnet" was a sub one to the post at Chertsey. The number of letters sent to and from the camp, as detailed below, from the first day of opening the office to the day of closing it on the removal of the troops, shows that it transacted a fair amount of business.

First division — from 13th June to 13th July. Inwards . . .	33,783	Outwards . .	29,614	63,397
Second division — July 14th to 20th August. Inwards . . .	42,105	Outwards . .	37,500	79,605

Total . . . 143,002

Of these the number of registered letters were 257, and the postage-stamps sold realized the sum of 1237. 17s. 8d. The number of letters to the camp showed but little variation through the course of the month, but those despatched from it were much affected by the field days, and on one occasion they fell from 1,526 to 601. The management of the postal arrangements was highly satisfactory, and reflected great credit upon Mr. Smith and the Corporal. The latter, in a testimonial from his chief, was eulogized for having performed his duty with the greatest zeal, integrity, and attention.

To give an additional warlike feature to the evolutions of the division, some temporary field-works were thrown up. These consisted of three redoubts, two irregular, with faces of very unequal length, on Oystershell and Catton hills, and one regular, on Sheep-hill. The one on Oystershell-hill was revetted on one of its faces with brushwood and fir-branches woven upon pickets, while its remaining sides were cased with sods. The other redoubts were revetted wholly with sods. Sheep-hill redoubt was a square work, with two platforms for one fieldpiece each, and its sides in the interior were each sixty feet long. Four shafts of six feet deep were sunk under its right face, and the charges, in boxes containing each 100 lbs. of gunpowder, were laid and tamped ready for explosion on the 6th August.

The Queen was present on that day and witnessed the manoeuvres, which were closed by blowing up the redoubt. At the appointed time, the wires were applied to the battery, but from some mismanagement, supposed from the communication becoming disconnected, the mines did not go off. Two sappers immediately repaired to the spot where the charges were chambered, and after removing the earth which covered them, and affixing in the ordinary way the powder-hose to form the train. Captain Inglis fired it with portfire, and a successful explosion was the result. The whole face was blown up. The field-works were completed early in August, and were only on three or four occasions used in the general operations. Contingents of men from the guards and the line threw them up. Some of the sappers acted as overseers, and others took part in the trenches. The shafts for the mines were dug and the

powder placed in them in the night-time.

A series of seven or eight sub-aqueous mines, fired by voltaic electricity, were made in Virginia Water, to show the effect of such expedients if the service rendered recourse to them desirable. The largest charge fired was 35 lbs. of powder. The charges were fixed in tin cans of sizes to suit the bulk of the powder, and fired from the shore. Sergeant Entwistle and one private had the preparation of the charges, etc., and Captain Inglis, R.E., invariably fired them. One on the 12th July was exploded in the presence of the Prince of Wales, and was successful, a column of water being thrown into the air to a considerable height.

As soon as the pontoon train and equipment arrived, the corps commenced and continued for several days to carry out such instructional practice as was considered essential to render the contemplated bridging perfect. The train consisted of — 30 cylindrical pontoons, 4 india-rubber ditto, 1 demi india-rubber ditto, 6 carriages, and the requisite stores, forge, &c., and all were packed on the margin of Virginia Water on the 25th June, 1853.

In accordance with appointed arrangements, a military display took place on the 5th July, in the presence of Prince Albert and Her Majesty. Early in the morning about 8,000 troops were marched to the Water, on the north side of which an enemy was supposed to have established himself, represented by the second company of sappers and detachments of the Grenadier guards and 23rd fusiliers. While a sharp and prolonged attack was being made upon the brigade of Sir De Lacy Evans at Blacknest Bridge, a body of sappers 125 strong, directed by a captain and five subalterns of royal engineers, began to form the pontoon bridge, and to carry out other subsidiary means for effecting the passage of the lake. The six carriages of the train, packed with twelve pontoons and their superstructure, were horsed by the royal artillery, and moved down to the water's edge, where they were unloaded. The remaining pontoons, eighteen in number, had already been stored on the margin of the lake in readiness for the service. The moment the order was given, the sappers in fatigue-dress launched the pontoons, and with the greatest silence, precision, and diligence, formed in forty-five minutes a bridge of thirty cylinders with two bays across an arm of the lake 324 feet broad. The pontoons were lashed in intermediate intervals of eight feet apart, which is considered to be the proper adjustment of buoyancy for the transport of the varied weights of artillery. While the bridge was booming out. Her Majesty and His Royal Highness Prince Albert, with their illustrious guests, embarked in a royally-decorated barge, drew near the bridge and watched with evident interest the movements and exertions of the men.

During the operation a party of twenty-one non-commissioned officers and men, under three subalterns of the royal engineers, formed two rafts and one demi-raft of the india-rubber pontoons, and rapidly ferried across the lake four companies of the rifle brigade, who took shelter in the woods close to the edge of the water. This service was executed in exactly the same time that was occupied in forming the bridge.

About noon, the cannonade on the left at Blacknest Bridge ceased, and the supposed enemy, having discovered Lord Seaton's real intention, advanced to dispute his passage over the pontoons. Not a moment was now lost on either side. One wing of the rifles was thrown across, and forming line on the opposite bank opened a spirited fire on their opponents. The batteries also boomed from the south side of the water, and under cover of the cannonade — for the whole woodland for some minutes was shrouded in the smoke it occasioned — a battalion of the Grenadier guards defiled over the bridge. Scarcely had they concealed themselves in the embowering woods when the sappers, who had left the pontoons for an interstitial duty, suddenly returned with bundles of fern and brake, which they strewed over



the superstructure to render the passage as secure as practicable for the batteries and the cavalry. Now followed two 6-pounder batteries and a 9-pounder battery of six guns each, the 6th Dragoon guards, and a battalion of the Coldstream guards and of the 42nd Highlanders, with all the staff.

The remainder of Major-General Fane's brigade of cavalry proceeded by the iron gate to the high ground on the north side of the lake, whilst the brigade of Sir De Lacy Evans, now unopposed by the enemy, marched by Blacknest Bridge to Smith's lawn, where the troops were reviewed by Her Majesty. The second company only of the corps was present at the review ; the other companies being necessarily detained with the pontoons.

To provide as much as possible for the safety of the horses in crossing, the sappers, with an oar extended from man to man, lined the bridge at each side, by which a kind of railing or balustrade was formed from one end of the bridge to the other. The plan had unquestionable advantages in encouraging the horses and retaining them in their places, but it was somewhat dangerous to the men. As the second battery approached the middle of the stream, the floating motion of the bridge caused some of the horses to become restive, and in the efforts made to control their progress, five of the sappers were thrown into the lake. No casualty, however, happened, and the men, after a little swimming, resumed their stations on the bridge.

In testimony of the services of the corps on this occasion. Lord Seaton published the following order from Her Majesty : —

" Horse Guards, 5th July, 1853.

" General Viscount Hardinge has received the Queen's commands to express Her Majesty's satisfaction in having witnessed this day the laying down of the cylindrical pontoon bridge, which was completed in less than one hour, for the passage of the artillery, cavalry, and infantry. Her Majesty did not fail to remark the order, the silence, and the perfect acquaintance with every detail, which prevailed throughout all ranks of the sappers and miners. Her Majesty highly appreciates the service of this portion of her army. From the date of its original formation this corps has been remarkable in the annals of the British army for the scientific attainments of its officers and the practical knowledge of its men, and has justly acquired the confidence and esteem of the army by its skilful arrangements, and by being at all times foremost in the perilous duties of war. In peace upholding its high reputation by the useful labours which it so cheerfully performs. Viscount Hardinge requests Lord Seaton will convey to Colonel Jones, of the Royal Engineers, who directed the pontoon train, and to Colonel Vicars, in charge of the engineer duties in the camp, and to the officers and men of all ranks of the Royal Sappers and Miners, the Queen's approbation of their state of discipline and conduct."

" By command of General Viscount Hardinge.

" (Signed) G. Brown, A. G."

The 11th July was another day of field manoeuvring appointed expressly to experimentalize with the pontoons. Before the arrival of the troops at the lake, a bridge was quickly formed with twenty-four pontoons, on the same site as that occupied on the 5th instant, and by the same detachment At eleven o'clock a part of the division under Major-General His Royal Highness the Duke of Cambridge passed over it in the order of movement detailed below : —

4 companies of the 93rd Highlanders. 13th Light dragoons.  
6 companies of the 93rd. 38th regiment. 17th Lancers.  
1st Life guards.  
1 troop of Royal horse artillery — six guns.  
2 nine-pounder guns ; and 4 small ammunition-waggon.

The time occupied in the passage of the troops was fifty minutes, and on its completion, the bridge was speedily broken up into rafts. These, with the assistance of the india-rubber rafts, manned by the same detachment as on the 5th July, were afterwards employed in ferrying back the 38th and 93rd regiments at a spot 150 yards wide, below where the bridge had been constructed. This duty was also completed in fifty minutes. In all the operations, there appears to have been a remarkable coincidence of duration, which, had the facts not been carefully ascertained and recorded, would seem to be the errors of carelessness or inexperience.

In crossing the bridge, many of the horses of the Life guards became unmanageable. Not a few of them got into a gallop and started off, sometimes as many as three abreast. Several of the artillery horses also were restive. Among so much violence and disorder, the sappers, who lined the bridge as before, had to bear their full share of accident and danger, and before the passage was effected, as many as twenty-five sergeants and rank and file were thrust overboard. All fortunately could swim, and soon made good their places on their respective rafts.

This day's bridging closed the operations on Virginia Water. With the exception of seven rafts and the six carriages, the remainder of the pontoons and stores were packed up and removed to their original stations at Woolwich and Chatham.

The seven rafts, &c., were soon afterwards conveyed to Staines, in readiness for ulterior service over the Thames.

On the 27th July another pontoon bridge was thrown, this time across the Thames, at Runnymede, celebrated alike for its historic claims and attractions, and for the beauty of the surrounding landscape. The point chosen was an angle of the river about a mile from the town of Egham, opposite Ankerwycke House. The operation bore some resemblance to that which took place on Virginia Lake on the 5th July. The sappers commenced their march at eight o'clock in the morning, and, proceeding with the pontoons along the Windsor and Staines roads, halted on the banks of the river at Runnymede at a quarter to eleven. At once the men set to work, and under the more natural circumstances of steep banks and a strong tidal current, unfelt at Virginia Water, threw in thirty-six minutes a bridge consisting of six rafts of twelve cylindrical pontoons in open order, twelve feet apart, and two half bays. To allow the operation to be conducted without interruption, a mimic battle was fiercely carried on some distance higher up the river and, to afford protection to the bridge as it approached the Ankerwycke shore, parties of the 79th Highlanders were rapidly rowed across in punts, which at the time were lying unemployed and captured for the occasion. Soon the combat was removed to the pontoons, and a heavy fusillade was for a long time kept up. Under cover of the guns of the horse artillery, fired from a commanding position, the troops poured over the bridge in a continuous stream, and followed the retreating enemy, with all the impetuosity of enthusiastic pursuit into Magna Charta Island. There the fight was hotly maintained, and ultimately won by the little band of mixed troops under the command of Lieutenant-Colonel

## Vicars.

The troops that crossed the bridge were a battalion of the Guards, 4th Light dragoons, the other battalion of Guards, 79th Highlanders, the Horse guards blue, and some batteries of horse and foot artillery.

An accident took place just as the last battery was crossing the bridge. The vertical motion of the rafts was such as to startle the horses, and some from the dull reverberating noise produced by their tramp coupled with the booming roll of the heavy wheels on the superstructure, became ungovernable, and six horses tumbled into the stream dragging with them a gun with its carriage and limber. As usual, the sappers lined the bridge with extended oars, and in the struggling of the horses, four of the men were swept into the current. Three of them were injured — two severely. These were privates John Piper and William Swann, who were also nearly drowned. The latter was entangled with the horses in the water, and it was with great difficulty he succeeded in getting on the back of one of them, when he was picked up by the crew of a boat quickly manned for the purpose. Four of the horses were cleverly rescued by colour-sergeant William Jamieson and private Henry Collins\*, who dexterously cut the traces ; but the two wheel-horses, borne down by the carriage, could not be saved. Privates Daniel Port, Henry Collins, and Elias Garratt conducted themselves with intrepidity on the occasion by plunging from the bridge into the river to rescue the men and save the horses.

After the operation the sappers bivouacked on the ground, and dined on the day's ration taken with them from the camp. The bridge was afterwards dismantled, packed on the waggons, and then accompanied the troops to Staines. The company belonging to the Chobham force did not reach its tents till eight o'clock in the evening.

\* An accident occurred to this soldier at Virginia Lake, which but for his presence of mind was likely to have terminated fatally. The waggons were parked on the slopes of the water, and it being desired to pack the stores on them, private Collins with three other privates rushed to the spot, and put a waggon in motion. Collins laid hold of the shafts—the others pushed in the rear. By some mistake the men in rear quitted their hold, and the waggon thus left to itself rolled with great velocity down the slope, forcing Collins on with it. His situation was now very critical ; but seeing at once the danger and the way to escape, he plunged from between the shafts, in an oblique direction into the lake, and saved himself by swimming, while the waggon with its own impetus dashed onwards, until its speed was spent by the resistance of the water. Had he not thus extricated himself, he would have been tumbled over by the waggon, and most likely drowned under its body.

On field days the sappers, together with a company of the Guards, on several occasions under Captain the Prince Edward of Saxe Weimar, and a company of the 23rd iusileers, represented the enemy under the command of Colonel Vicars, B.E. All acted as skirmishers ; and when pressed by charges of the troops, formed squares, or resorted to such other simple manœuvres as were best adapted to their position and circumstances. On these days the expenditure of ammunition by the company was enormous ; 100 rounds per man at least were consumed. On the first day of the pontooning at Virginia Water, the sappers, who were posted to prevent the passage of the troops by Blacknest Bridge, fired in an hour and a-quarter about 120 rounds a man. The firing of the main body of the division was always comparatively trifling. From the hard nature of the duties that devolved upon the enemy, the men composing it gained in camp the familiar designation of "The Kaffirs." The last field day at Chobham was one of labour and fatigue to the men. They fired more than an average quantity of

ammunition, and at its close the sappers marched at the head of the line in review, before the Duke of Cambridge and Lord Seaton. Their blackened faces, dingy accoutrements, and well-worn apparel afforded a striking contrast to the clean appearance, unsoiled appointments, and bright uniform of the passing squadrons and battalions ; and it was no inappropriate commendation to say on this, their last camp inspection, that in their endurance, their hardihood, their wearied but dauntless aspect, they looked like "Polish patriots - few, but undismayed."

On the 21st June and 5th July the Queen inspected the second company in common with the rest of the troops at the camp. The Prince Albert and Lord Hardinge accompanied Her Majesty. The King and Queen of Hanover were present on the first day. The fifth company and a detachment of the eleventh were also reviewed by the Queen and the Prince Consort on the 4th and 6th August. On the latter date Her Majesty did not personally inspect the troops.

On all occasions of the royal presence at the camp, the sappers were in full notice of Her Majesty, for they possessed the advantage of occupying a position close to the Bagshot road, and next to one of the special entrances, which led the Queen and the royal cortege immediately past their tents to the 'Magnet'.

After the breaking up of the camp, the sappers remained for four days to dismantle the stables and collect the stores. All the canvas was stripped off the stables, and packed in two days and a half, throughout which time the men were exposed to a ceaseless rain, which fell in torrents. The pontoons and carriages were conveyed to Chertsey, and embarked for Chatham. After completing these duties, the fifth company and the detachment of the eleventh, under Captain W. M. Inglis and Lieutenant W. C. Anderson, R.E., arrived respectively at Chatham and Woolwich on the 24th August. On that day Lord Seaton finally gave up his command. A party of one sergeant and eight privates — the last troops at the camp — detained for the closing duties of clearing the ground, and collecting and packing the Ordnance and Commissariat stores, joined at headquarters on the 27th August. Novel and memorable was the reappearance of these companies with the corps, for both officers and men had doffed their plumes, and substituted for them bunches of blooming heather, gathered from the ridges and valleys of the now famous Chobham. On their route to Chertsey they were met by Colonel Vicars, who complimented them for their excellent conduct and exertions during the period of their encampment, and expressed to them the satisfaction of Lord Seaton for their alacrity and readiness at all times to meet the wants of the service. This testimony was afterwards corroborated in a letter dated Hyam's, 25th August, 1863, to Lieutenant-General Sir John Burgoyne, in which his lordship, after alluding to the active assistance of the officers of royal engineers, and the detachment of the corps of sappers under the command of Colonel Vicars, added "that their conduct and exertions on all occasions have been most satisfactory."

Staff appointments — Party to Melbourne — Mint detachment to Sydney — Survey of Aldershot heath — Department of Practical Science and Art — Dress — War with Russia — Detachment attached to Baltic fleet — Second company to the Aland Islands — Landing — Brigadier-General Jones — Preliminary services — Operations — Fort Nottich — Incidental employments — Bomarsund — Destruction of the forts — Conduct of the company — Sickness ; returns to England — Detachment to Turkey — Augmentation to the corps — Seventh company withdrawn from Hurst Castle — Eleventh and seventh companies to

Turkey — Odessa — Services of the first detachment in Turkey— Corporal Cray— Gallipoli ; Boulair ; Ibridgi — Commendation by Sir George Brown — Tenth and eighth companies to Scutari— Redout Kaleh — Works there — Circassia — Working pay — Companies attached to divisions of the army — Buyuk Tchekmedjie — First detachment to Varna — Followed by the tenth company — Also by the eleventh — Complimentary order for services of the latter — Contrast between the French and English sappers — Works at Varna — Also at Devno — Encampments at Aladyn and Varna — Works at Gallipoli and Boulair— Eighth company to Varna — Gallantry of Corporal Swann and private Anderson— Sappers join at Varna from the fleet— Photographers — Detachment to Rustchuk— -Trestle bridge at Slobedzie — Bridge of boats over the Danube— Return to Varna of a portion of the sappers from Rustchuk — Misconduct of the detachment ; also of the seventh company — Spirited conduct of Corporal Cray — Major Bent and party of sappers to Bucharest— Fourth company to Varna.

Major Walpole, on his promotion to be lieutenant-colonel was removed from the appointment of brigade-major to the corps, and succeeded by Captain Frederick A. Yorke, RE, on the 17th February. Lieutenant-Colonel Walpole had been commissioned to the office from the Cape of Good Hope, where he had served for many years in command of the tenth company, and been twice dangerously wounded in action with the Kaffirs at Fort Peddie. During the six years he had held the appointment he carried out in all respects its requirements with a diligence, consideration, and success, that were of great advantage to the corps, and enhanced in public estimation its services and merits.

In Major Yorke the corps has the good fortune to be commanded by an officer who, for the greater part of his military career has been much employed with it both at home and abroad. Under Colonel Matson, when brigade-major, he was the acting-adjutant at headquarters, and thus early became acquainted with the organization, character, services, and resources of the royal sappers and miners.

On the 3rd March one sergeant and five rank and file sailed from Southampton for Melbourne to reinforce the civil staff employed in the survey of the waste districts of the Crown, and landed on the 24th July. This addition was made to the colonial establishment, as applications for land by the emigrants were increasing and urgent, and could not be met by any resources to be engaged in the colony.

In April a party, huttled on the bleak heath of Aldershot, commenced a series of surveys, having reference to the use of the moor as a military camp for periodical evolution and exercise. The detachment mustered at one time as many as twenty-four non-commissioned officers and men, and dwindled down to an initial party of a few choice hands to finish the operation. Captain Cameron, R.E., had the direction of the service ; and Corporal James Macdonald, a non-commissioned officer of tried ability and indefatigable activity, was its local superintendent. In ten months the detachment, after being instructed by the Corporal, completed a survey of a selected district of about 800 acres for the Commander-in-Chief; another of some 1,500 acres for the professional use of Major-General Sir Frederic Smith ; and a general one for the Ordnance, including the ground specially surveyed, extending over an area of 13,000 acres. Each survey provided its contours to suit particular requirements; and the whole range of duties in connection with the plans, usually performed by different parties, with qualifications adapted to each particular service, were wholly carried out by Corporal Macdonald and his party.

Six rank and file to complete the mint detachment at Sydney, embarked in two parties on the 8th April and 19th June, taking with them the portable houses, shops, machinery, and stores necessary for the formation of the establishment. The men had all been instructed prior to leaving the royal mint in London in the art of coining, and were taught by Messrs. Walker of Millwall the method of fitting together the iron roofing, cisterns, girders, &c. to form the mint buildings. One man had also been instructed by Messrs. Whitworth and Co. at Manchester, in the manipulation and action of the several lathes to be used in the coining processes. They respectively reached Sydney on the 10th July and 24th October.

Three men were withdrawn from the department of science and art in the summer far service in the East, viz. two for employment as photographers, and one — Corporal Dickson — as conductor of the pontoon equipment and stores. One of the photographers — Corporal Pendered—had, while in that department the care of the students' drawings sent from the various local schools of art, in competition for prizes offered by the commissioners. Corporal Dickson, who until his removal had acted as a clerk at Marlborough House, received from the Board of Trade a gratuity of 5s. in recognition of his usefulness. The non-commissioned officers who remained under Captain Owen, R.E., were Corporals Frederic Key and James Mack; the former, stated to be full of invention and intelligence, continues to act as overseer of the civil carpenters employed at Gore and Marlborough Houses ; and the latter, remarkable for his good information and acquirements, is found to be a first-rate clerk and draughtsman. It should also be noted that one or other of these non-commissioned officers travelled during the autumn to several provincial towns in England and Scotland, such as Nottingham, Coventry, Sheffield, Warrington, York, &c., and exhibited to local institutions in connection with the central school of design at Somerset House, a collection of students' drawings for which prizes had been awarded at the spring examination at Gore House. The exhibition was so arranged as to be packed and conveyed from town to town with readiness and facility, and wherever they itinerated with their charge, they were treated with attention and courtesy.

This year the moustache, under certain restrictions, was permitted to be worn ; and the Kilmarnock bonnet, discarded in 1837, was revived. Its dimensions, however, were of a more reasonable measurement than in olden times, and suitable for campaigning. A yellow band was added, also a plain yellow ornament on the crown, and the scanty peak worn for nearly forty years, was replaced by one familiarly termed the war peak, sufficiently large to offer an efficient shade to the face from the sun.

To obtain a religious protectorate in Turkey, Russia menaced the independence of the Sultan, which led to a long diplomatic negotiation between the Western powers and the Czar ; but as the Emperor Nicholas persisted in interfering with the rule of the Sultan, and attempted to enforce his pretensions by occupying with a belligerent army the Danubian principalities. Great Britain and France declared war against Russia. Measures were instantly taken to give effect to the declaration by despatching powerful expeditions to the East and the Baltic.

To the Baltic fleet were attached, on the 9th March, one sergeant and nineteen rank and file of the second company, under the command of Lieutenant Nugent, R.E., which embarked at Portsmouth on board the 'Duke of Wellington,' flag-ship of Vice-Admiral Sir Charles Napier, and accompanied it in its reconnaissance of the Baltic Sea and the Gulf of Finland as far up as Cronstadt. The object of sending the party with the fleet was, that it

might take the lead of the seamen and marines in any escalating operations ashore; but the nature of the service was such that no occasion offered for resorting to the expedient. During the time that the cholera was rife in the fleet, several of the detachment were seized with the malady, and three died.

When it was resolved to make a descent upon the Aland Islands, a division of the French army was despatched from Calais to carry out the enterprise. The second company, of eighty strong, under Captain F. W. King, royal engineers, was added to the force, and sailing from Deptford in the 'Julia' transport on the 15th July, with every conceivable engineering requirement, arrived at Calais on the 17th, and took on board 225 officers, non-commissioned officers, and rank and file of the 51st infantry of the line. The sappers were the only troops that accompanied the French contingent.

Before daylight on the 8th August, the second company, 600 of the royal marines, and 2000 French troops landed at a small cove a few miles N.E. of Bomarsund, and taking a winding route by the village of Monkstetta, encamped about 2,000 yards from Fort Tzee, sheltered by a hill on which the breaching battery was afterwards constructed. The advance of the van was formed by the sappers from the flag-ship, carrying besides their carbines an assortment of bill-hooks, handsaws, axes, and hatchets, and the column was closed in rear by the second company under Captain King.

The British operations were wholly carried out under the direction of Brigadier-General Jones, R.E., an officer of matured judgment and experience, gained by hard service in the Peninsular War, and by some forty years of after study and experiment. He was assisted by Captain H. St. George Ord, and four other officers of the corps.

Nearly five days were employed in collecting the tools and stores, cutting roads, effecting preliminary reconnaissances, preparing an hospital, and in providing domiciles for the temporary accommodation of the company, by making huts of the branches of fir trees ; while a strong party, about 400 yards from the hill, worked with unflagging industry in making fascines and filling gabions, which, when finished, were carried by the seamen and marines to the depot near the site of the intended battery.

Meanwhile two or three attempts had been made by some officers of the corps, attended by a few intrepid sappers, to trace the battery ; but the enemy opened so heavy a fire upon the parties, that a suspension of their exertions necessarily followed. Determination and tact, however, got over the difficulty.

No trace was used, but a simple alignment struck, from which, on the 13th August, under shade of the evening, sergeant John Jones and twenty-four rank and file, began to construct the battery, under the orders of Captain Ord. Without the chance of digging a shovel full of earth to give solidity and strength to the cover, the battery was built on the bare rock entirely of fascines and sand-bags. The sappers reared it unassisted, except that the royal marines carried the material from the engineer's park to the hill. Sergeant John Jones had the honour of laying the first sand-bag. In ten hours, the detachment, unrelieved, nearly completed the battery, which would soon have opened upon Fort Tzee; but the French having forestalled the arrangement by obtaining the surrender of its commandant, the battery was free for other employment, and its direction was consequently changed against Fort Nottich. Speedily the epaulement which flanked the battery was prolonged, the platforms promptly laid, and three 32-pounders having been placed in position, the embrasures were unmasked by some daring sappers, and the firing, which lasted about nine hours, ended at the fall of the

day in the capture of the garrison. It was surrendered to Captain Ord, R.E., who had with him to receive the formal capitulation, a force of 100 of the royal marines and five rank and file of the sappers.

The added work was partly constructed in the day, under fire, as was also the laying of the platforms. Corporal Peter Leitch, a first-class carpenter with some handy men of the company, attended to this service. The working party was relieved every four hours day and night, until the battery was completed, and also during the siege, to throw fatigue and danger equally upon all. The guns fired by the seamen and marine artillery were first drawn by them to the battery on sledges of a novel construction, over steep and rugged ascents. When they reached the camp, however, their labours were considerably diminished, as a road to assist them had been cut by the sappers, up the hill to the breaching battery, under the orders of Captain King. Corporal George Luke acted as overseer in this duty. Two of the men were allotted to each of the guns to keep the embrasures in good order.

This they usually attended to while the gun was loading, and not a few displayed a stoical coolness and intrepidity in repairing the damaged merlons, and clearing away the debris occasioned by the enemy's cannonade. Though the fire upon the battery was warm at times, the casualties only embraced two killed, of whom one was the Hon. Lieutenant Cameron Wrottesley, R.E., and one wounded. None of the sappers were even touched ; and this good fortune, as well for them as the seamen and marines, was attributed to the prudence of Brigadier-General Jones, who had men appointed to look out and warn the battery when the enemy's guns were fired. These "look out" men were sappers — alert spirits with quick eyes and stout hearts — who gave the alarm the instant a flash was seen at the fort. The better to enable them to give the intimation they took ground in advance of the battery in some chasms of the rock, where, although partially screened by the natural cover of their hiding places, it was a wonder that they escaped unhurt. Privates James Moncur and Thomas Ross were most conspicuous in this hazardous duty.

Without attempting to chronicle the different incidents of the campaign, in which the fleet and the French troops so gallantly participated, it will be sufficient to note that Bomarsund, the principal fort of the Aland Islands, capitulated without material opposition, and the Russians were marched out prisoners of war. The sappers and miners and royal marines formed in line, faced by a force of the French infantry ; and through their divided ranks, the Russians moved pensively away to the point arranged for their departure.

No sooner were the forts in possession of the allies than measures were taken to disable the guns and dismantle the works. The sappers only were employed in carrying out the mining operations, under the direction of their officers. In this duty they worked with so much energy, that their exertions were scarcely checked by the fatigues to which they were necessarily subjected. Forts Frasto, Tzee, Nottich, and Bomarsund all fell in turn — blown up by mines skilfully laid and fired.

The magazines also were exploded, the shot and shell removed, and stores of timber, prepared for use in the contemplated fortifications, were burnt. The work of destruction extended even to the garrison chapel ; it was sacked and then destroyed, and all the unfinished forts and buildings, rising from foundations which marked the extent of a stupendous engineering design, were torn up by mines and thrown down. The stone landing-pier was likewise demolished, and not a slab of granite which promised to be of service in future works was left unbroken. But a few weeks, and what a change! This proud maritime



position — this formidable outport of the yet impregnable Cronstadt, studded with forts and bristling with ordnance, was one wide spread area of ruin and desolation!

Brigadier-General Jones and the officers of the corps were well pleased with the military bearing and exertions of the company, and commended the "cheerful and willing manner in which they performed the laborious duties" assigned to them. Besides the non-commissioned officers and men named above, there were others noted for their services. Privates John Williams, John Veitch, and Francis Enright, for their boldness, resolution, and zeal - Corporal George Luke, for his ability and usefulness as a miner in the demolition of Bomarsund - Sergeant John Jones, for his assistance as a draughtsman ; and sergeant Richard P. Jones, for his general diligence and intelligence, as well in the general operations as in the special one of diving. The "Penelope" having run ashore on an unknown rock off Bomarsund, was compelled to throw fifteen of her guns overboard to float and save her. Several naval divers attached to the fleet were afterwards employed to bring them up, but as some submarine difficulties prevented as speedy an accomplishment of the undertaking as was desired, the co-operation of sergeant Richard Jones was found to be an acquisition, inasmuch as he recovered five 8-inch guns and one 10-inch.

There was much sickness among the sappers during the brief campaign, and on one day no less than forty-seven men out of a company not a hundred strong, were on the sick-list with choleraic symptoms ; but owing to the attention of the naval surgeons, only two died. Quitting the Baltic Sea in the 'Cumberland,' the company rejoined the corps at Woolwich on the 16th October, and before two months had intervened, was despatched in all haste to Turkey.

It is now time to turn to the East, to trace the movements and services of the corps in that interesting quarter. The van of the army sent thither under the command of Lord Raglan, was a small party of six rank and file of the sappers and miners. They belonged to the fourth company, at Malta, whence they sailed in the " Banshee " on the 25th January, and were the first British soldiers landed on the Ottoman shores.

To meet the calls for its services in the coming struggle with efficiency, the corps, by order of Lord Raglan under date the 20th February, was augmented from an establishment of 2,218 of all ranks to 2,658 officers and men, by enlarging the organization of each of the twenty-two companies with one sergeant, one Corporal, one second-Corporal, and seventeen privates.

To concentrate the available force for active duty, the seventh company, employed in services of a secondary character only, was withdrawn from Hurst Castle, and removed to Woolwich. While at the castle the company had assisted in strengthening the place by constructing two batteries for ten and twelve guns respectively, and also three loopholed caponnières, built of brick and cement in the moat of the castle. Quartered as it was upon an exposed shore, in a spot that was isolated and dreary, the conduct of the company was anything but satisfactory, and in the short space of eighteen months, out of a strength that scarcely exceeded ninety non-commissioned officers and men, no fewer than twenty-three privates deserted.

On the 24th February the eleventh company, under Captain Hassard, embarked at Southampton for Turkey on board the 'Himalaya' steamer, in which was shipped a store of intrenching tools for field operations. At Malta they landed on the 8th March, and were temporarily quartered at Floriana. The seventh company — Captain Gibb's— joined them on

the 27th March, and brought with them a further supply of tools and implements. Two days later both companies embarked in the 'Golden Fleece' and steamed off with the rifle brigade to Gallipoli, where they landed with Lieutenant-General Sir George Brown on the 8th April. About forty non-commissioned officers and men of the corps were left at Gallipoli, and the remainder, marching nearly nine miles, took up a position not far from the village of Boulair, from which the camp derived its name.

On the 17th April twelve rank and file of the eleventh company, detached to Constantinople, joined the 'Fury' steamer for service in the Black Sea, and were present at the bombardment of Odessa. The squadron was hotly engaged when the 'Fury' arrived, and after firing a few rounds, was signalled from the action by the Admiral. On the 23rd April she was again in the fight for two hours, but her presence in the action is not noticed in the official despatches.

Meanwhile the six men with Lieutenant Ewart, R.E., when not on board ship, were employed surveying at Gallipoli, Boulair, and a district north of Constantinople. They also fitted up an office for the brigadier-general at Therapia, where they were quartered until they merged, late in May, into the eleventh company at Varna.

When Sir John Burgoyne was in the country prior to the arrival of the troops, private James Cray was his orderly, and accompanied him to Varna and Shumla. Majors Dickson and Wellesley, with Lieutenants Burke and the Honourable George Wrottesley and lady, were of the party. From rough roads and inclement weather the journey was not without its trials ; and at night the little expedition rested by the road-side in any nook or hovel where they could find shelter.

Subsequently private Cray was orderly to the heroic Lieutenant Burke, R.E. With him he passed a few days at Silistria, and then marched to a small town on the banks of the Danube nine miles from Rustchuk. Major Wellesley had given him a sword, but this was not considered sufficient for his defence, and he was provided from the Turkish armoury with a minié rifle and revolver. Thus armed, he joined the Ottoman forces in an action against the Russians, who were beaten, and forced to retire into Rustchuk. His next march was to Sistova. At the time the party entered the town an engagement was going on, and the Turks were again victorious. Journeying onwards they crossed to an island, where Lieutenant Burke and his orderly at imminent risk laid out new works, and traced batteries to complete the defences of the place. On that occasion private Cray exchanged between twenty and thirty shots with the enemy, who kept up a sharp fire upon the party from the opposite bank. In all his tours of inspection and survey, from the Danube to Adrianople and on to Constantinople, private Cray accompanied Lieutenant Burke, and for his usefulness and spirited conduct was made lance-Corporal and afterwards attached as orderly to the Brigade-Major.

The detachment at Gallipoli erected piers at the port for landing stores, guns, &c., and prepared hospitals for the sick. The companies at Boulair assisted to form the lines on the left of the position allotted to the British troops to execute. About 1,500 men of the infantry were daily distributed for some months to the trenches and roads, and performed their tasks with ardour and cheerfulness. One man detached to Ibridgi, about fifty miles distant on the north side of the gulf of Saros, superintended the Greeks in felling and collecting brushwood and timber, for the construction of magazines, platforms, log-huts, &c. A fluctuating party, numbering at one time nine men under a Corporal, was afterwards detached on this duty. When Sir George Brown, who commanded the division, took his departure for the frontier, he

communicated in orders of the 6th May "his entire approbation of the general conduct, zeal, and industry of the royal sappers and miners on the works, both at Gallipoli and the camp at Boulair."

Two other companies were quickly reorganised to reinforce the corps in the East. These were the tenth under Captain Bent, to form the pontoon train, and the eighth from Gibraltar, under Captain Bouchier. The former embarked at Woolwich in the 'City of London' steamer, on board of which was Lieutenant-General Sir De Lacy Evans and staff, and the staff of the Duke of Cambridge. Sir De Lacy Evans was well pleased with the conduct and services of the company on board, for they had much to attend to in strengthening the horseboxes. Landing at Constantinople on the 24th April, the company was quartered in Scutari barracks, as was also the eighth on debarking from the 'Albatross,' on the 9th May. The pontoons sent out in the 'Melbourne' in charge of Corporal William Dickson, an able and intelligent non-commissioned officer, reached Constantinople on the 13th May.

The sappers attached to Her Majesty's ship 'Fury' being transshipped to the 'Agamemnon,' bearing the flag of Rear-Admiral Lyons, served with the squadron in a cruise on the coasts of Circassia, Georgia, and Anatolia, and were present on the 19th May in the reduction of Redout Kaleh.

Next morning the party landed, and were employed for two days as overseers in the defensive occupation of the place, under the orders of Lieutenant H. Cox and H. R Roberts, of the royal marine artillery. Parties from all the ships were ashore at the works. The Turks, utterly unacquainted with the mode of protecting themselves by intrenchments, were instructed by the sappers. A Russian barrack was speedily loopholed, a stone building in a commanding situation was converted by massive planks into a block-house as an outwork, and a parapet was formed, flanked by a deep marsh. Houses, too, that could not aid in the defence were thrown down, whilst others, well sited, were turned into points of security and resistance. The old fort on the land side was also strengthened with additional works. When these services were sufficiently advanced, the Turks with two sappers were left to complete the defences, and the Anglo-French working parties, with the remainder of the sappers, returned to their ships.

Renewing its cruise the squadron anchored off Bardan. Landing Captain Brook, R.N., a doctor, and four sappers, they started, guided by an escort of Circassians commanded by Ismail Bey, over the mountains, to communicate with the prophet-warrior Scbamyl. In July two men were added to the party at Redout Kaleh, to superintend the Turks in improving the fortifications under the direction of Lieutenant G. R. Lempriere.

Late in May Lord Raglan ordered the sappers, when employed as artificers "in repairing tools, constructing wharves and the like," to receive working pay; the non-commissioned officers at the rate of 1<sup>s</sup>. a-day, and the privates 6<sup>d</sup>. to 1s. a-day each, according to conduct and ability. The non-commissioned officers appointed conductors of stores, photographers, electricians, &c., were granted 2s. a-day each.

To form a connexion between the sappers and miners and the army, the four companies with the expedition were attached to the divisions as follows : —

1st division	11th company .	Captain Hassard.
2nd „ . ,	8th company .	Captain Bouchier.
8rd „ . 7	th company ,	Captain Gibb.
Light „ . .	10th company	Captain Bent.

Four men employed for a few weeks with Captain Chapman, "R.E., in the survey of Buyuk Tchekmedjie, were recalled to Constantinople late in May, as the intention of forming that district into an encampment had been abandoned, owing to the altered character of events.

While the carpenters of the companies at Scutari were fitting up horse-boxes for the cavalry on board the transports, a forward movement was commenced by a detachment of one sergeant — John F. Read — and twenty-seven rank and file of the tenth company, commanded by Lieutenants Gordon and Pratt, which landed at Varna from the 'Caradoc' on the 22nd of May. Precedence was given to this party for the purpose of erecting jetties to land the troops, horses, and ordnance, on the arrival of the army.

On the 26th of May, the remainder of the company under Captain Bent, disembarked at Varna with the pontoons, from the ' Cyclops' steamer. The removal of the company was an expeditious operation, for in less than ten hours from the time of receiving orders, the pontoons, stores, horses, and all the miscellaneous gear attending a war company of sappers, were stowed into one vessel, and then transshipped into another when subsequent orders rendered such an arrangement imperative. In allusion to the company's departure, the corps was spoken of in the 'Times,' as a "most indefatigable and invaluable body of men."

Simultaneously with this movement, Captain Hassard's company sailed from Gallipoli, when their exertions elicited the following complimentary order from the officer of Royal Engineers in command.

« On hoard the Emu, 25th May, 1854.

" Captain Gordon thanks the eleventh company for the zealous and willing manner with which they worked during the whole of last night, and till six o'clock this morning, embarking intrenching tools and stores, immediately after their march in from the camp at Boulahar. This exertion, so cheerfully performed, as to enable the company to proceed without loss of time on active service, will be brought to the notice of the Brigadier-General." It was so, and received his hearty acknowledgements.

The company disembarked at Varna on the 27th, and the scene at the quay was strikingly interesting and animated. About 250 French sappers had also landed from the ' Cacique,' and working as they did some twenty yards from the British sappers, a good opportunity was afforded for contrasting the temperament and military habits of the two nations. The French, gay, volatile and impulsive, stirred about with elated spirits and elastic

activity, that gave a cheerful, though an impetuous aspect to their exertions ; whilst the English sappers, grave, impassible, and taciturn, wheeled off scaling ladders and stores so devoid of bustle and joyousness, and with so much attention to order and composure, that an air of stern and serious necessity was impressed on their labours. Nevertheless, the work was done with a business-like energy and earnestness that seemed more than adequate for any task or enterprise.

Varna for a few months was the principal frontier station and depot for engineer stores and pontoons, from whence parties were thrown out to Devno, Aladyn, Monister, Rustchuk, &c At Varna the companies built a stone pier of some pretensions, and a wooden one at the south side of the bay, run out into deep water 140 feet from the beach. They also banked up the shore, deepened the little harbour, and improved the almost trackless roads beyond and within the vicinity of Aladyn, making them passable for heavy wheeled conveyances. Much of the work was carried on in bog and water, which, however, was ultimately discontinued, as it was found that some of the men who were so employed, died from cholera, traceable to their exertions and exposure.

About seventy men marched to Devno on the 29th of May, and marked out the encampment ground for the light division. They also repaired the roads, removed the accumulations of years from deserted fountains, rendering them again useful for thirsty wayfarers, built ovens for baking bread, raised dams to collect water for the troops, and constructed a bridge across the lake. From a lonely burial-ground, filled with blocks of unhewn and unsculptured granite, marking nevertheless the sites of numerous graves, the sappers took the largest stones, and used them in erecting a bridge over one of the narrow channels which join lake to lake. The men worked very hard, at times up to their breasts in water. The correspondent of the 'Times,' in speaking of this work — June 29th — termed the sappers " a most utilitarian corps ;" while Captain Gordon, in a letter to a brother officer, remarked with respect to its general services, "that the men work well and behave well. To be with them is a pleasure."

A party of twelve men with sergeant Thomas Dumvill, under Lieutenant Creyke of the engineers, was employed for three days at Carra-Houssan ; and having placed the several wells in order, and rendered the neglected fountains available for use, it returned to Devno. It was expected that the light division would march through the village of Shumla, but the intention was afterwards abandoned. The sappers therefore were the only British troops at this advanced frontier station.

At Aladyn, the sappers were encamped in a valley covered with the thickest foliage, and its many rural accessories of creepers, clematis, wild vines, &c., made the scene as picturesque as grateful. At Varna the companies were tented as nearly as possible to their work, while a detachment was quartered for a time, close by the city walls, to be ready for any emergency : but when the cholera had to some extent decimated the camp, the sappers were removed, to improve their sanitary condition, to a healthier location on the south side of the bay.

The seventh company at Galiipoli and Boulair, in addition to their duties on the lines, constructed a number of log-huts, stores, and stables for the cantonment of a regiment, in the event of the army being compelled to fall back to the isthmus, as to another Torres Vedras, for succour and safety.

The eighth company from Scutari landed at Varna on the 19th of June from the 'Golden Fleece' steamer, and joined the frontier companies.

Lance-Corporal William Swann and private Andrew Anderson accompanied Captain Bent and Lieutenant Burke to the beleaguered fortress of Silistria, starting on the 17th of June. Arriving too late to share in its defence, they shortly afterwards repaired to Rustchuk, where a hazardous attack upon the Russians holding the opposite bank of the Danube, was undertaken on the 7th of July by Hassan Haki Pacha, the commander of the Turkish force at that fortress. The attack was made on three points. Captain Bent leading one of the divisions. Lieutenant Burke also led a detached party of Turkish troops across the river in boats. The two sappers were attached to him, and it is of their conduct particularly, and not the general incidents of the battle, that the following record will give an account. Gaining the island, the party of Turks jumped on shore, and forming in line, gallantly pushed on, and were met by superior numbers. A fierce hand to hand struggle ensued, and Lieutenant Burke, with desperate valour, slew with his own strong arm six of his opponents, falling early on the strand covered with frightful wounds. The sappers stood by their officer, and fought "well and bravely."

In the midst of the conflict, private Anderson, a stalwart soldier, tried to save the heroic young man whose spirit infused all with courage; but though the attempt unhappily failed, he dealt out slaughter among the Russians with incredible effect. It was not long before the little band of Turks, overpowered by numbers, retreated to the boats. Mindful of the sacred duty that devolved upon him, Anderson, with daring devotion, three times threw himself into the ranks of the enemy, and at last rescued the bleeding body of his officer. Though encumbered with his carbine and other arms, he endeavoured to bear it away on his back, but such was its weight — for the lieutenant was a powerful man, and of robust stature — and such the heaviness of the fire upon him, he was obliged to relinquish his purpose, leaving the body concealed in some long grass. Taking the dead man's sword to save it from falling as a trophy into the hands of the enemy, he made good his retreat to the river. Scrambling down its sedgy bank, which varied from three to six feet in height, the party renewed the conflict, and improved their cover by a hasty entrenchment, in the formation of which the Turks used their hands and bayonets, and the sappers their swords. Corporal Swann was here soon disabled, and, wounded in the head by a blow from the butt end of a musket, he was falling, when, a second blow across the shoulder-blade, threw him into the water. There for four hours he lay insensible, and was providentially saved from drowning by a thick woollen shirt he wore. Anderson, now the only British soldier with the little batch, acted as became his manly character, and encouraging the Turks by his prowess and endurance, the brave detachment maintained the unequal contest with veteran firmness, and only recrossed the Danube when the necessity for their services had ceased. In that hard-contested battle, private Anderson killed no less than fourteen Russians, himself escaping miraculously without wound or hurt. Next morning, though it was uncertain whether the enemy was in ambush or not, he pushed over to the island again, and recovered the body of his officer, but what a sad spectacle did it present! It was headless; thirty wounds from bullet, sabre, and bayonet, riddled his remains, and his fingers had been chopped off to secure the rings he wore!

The battle of Giurgevo ended in a victory for the Turks. Ten hours the fight lasted, and the loss on both sides was considerable. For their gallantry Swann was promoted to be second Corporal, and private Anderson decorated, by Omar Pacha, with the order of the Medjidie.

His highness himself placed the star on the brave man's breast, and then, in friendship, warmly shook his hand. In the "London Gazette" of January 12, 1855, appeared the following gratifying announcement. '^ The Queen has been pleased to grant unto private Andrew Anderson of the Sappers and Miners, her royal license and permission that he may accept and wear the order of the Medjidie, which the Sultan has been pleased to confer upon him, in approbation of his distinguished bravery and good conduct at the passage of the Danube on the 7th of July last,, and subsequently in rescuing the body of his commanding officer, Lieutenant Burke, after he had fallen ; and that he may enjoy all the rights and privileges thereunto annexed." — "And also to command that Her Majesty's said concession and especial mark of her royal favour be registered, together with the relative documents, in Her Majesty's College of Arms."

The four sappers landed from the "Agamemnon" in May, were for six weeks in Circassia with Captain Brock, R.N. In returning to the ship, they, with six other men of the detachment on board of her, accompanied the fleet in its subsequent cruises along the coast, and in the Black Sea. No longer required for service afloat, the party landed at Baltschik, and marching to Varna, rejoined their companies on the 16th and 18th July.

Corporal John Pendered and lance-Corporal John Hammond arrived at Varna on the 24th July, and were attached as photographers, under Captain Hackett, 77th regiment, to the head-quarters of the army. Previously to leaving London they had been instructed in the art by Mr. Thompson, and had practically tested their efficiency at Chatham, where patches of broken ground, and military scenes and fortifications, gave them a variety of subjects to portray.

Many of their photographic sketches, taken under circumstances of difficulty and disadvantage, were exhibited at Gore House during the summer months ; but without having the chance of proving their usefulness and skill, these two young men, promising and enterprising, perished in a storm.

At the request of Omar Pacha a detachment of the corps, under Captain Gage, R.A. and Lieutenant Pratt, R.E., started from Aladyn for Rustchuk on the 8th July, to form a bridge over the Danube for the passage of the Ottoman troops. It consisted of sergeant John F. Read, one bugler, and thirty-two rank and file, accompanied by fifteen French pontoneers, and thirty-five English seamen from the fleet, under Lieutenant Glynn and Prince Leiningen, R.N., twenty of whom led the way, and fifteen covered the rear. With characteristic pride, the seamen gave importance to the honour accorded them by carrying unfurled, both in front and rear, a large union jack. All were on horseback. Next to the advance sailors were the sappers, unskilled in equitation, in every conceivable attitude, mounted on young horses. Each led a second horse loaded with intrenching tools, &c. Behind them followed about 150 horses ridden by native grooms and guides, bearing tools, baggage, and forage ; and then came the party of French pontoneers.

The expedition went from twenty to thirty miles in twelve hours, killing three horses in the first two days. Many of the animals, unaccustomed to the rattling of picks and shovels against their flanks, were difficult to manage, and in their fright and restiveness, frequently dashed away from the cavalcade. Considerable delay occurred in recovering and restraining them, and what with unavoidable halts at Schumla and Rasgradt, the party did not reach Rustchuk until the 13th July, though the distance travelled was only 120 miles. This novel equestrian journey was accomplished without any material mishap, except a few almost

harmless falls, and the occasional diversion of a horse and his rider rolling together in the road. Hard riding, however, on ill-formed and broken tracks, made the men so sore and stiff, that when the time for rest arrived, they found it preferable to sleep standing.

On the 15th, the sappers were sent over to Giurgevo, and for a few days assisted to intrench the position of the Turks ; when, on the 19th, at the desire of Omar Pacha, they moved up to Slobedsie, and under the superintendence of Captain Bent and Lieutenant Pratt constructed, in a very creditable manner, a trestle bridge over the Slobedsie Creek, which was 450 feet across, to a small island in the Danube. Notwithstanding that several of the men, as many as fifteen in one day, had been ill during the operation, the work was finished on the 25th.

Next day the sappers joined the French pontoneers and English sailors, in throwing a bridge of boats across the main stream, at a place some 890 yards wide. A few boats had been laid when the sappers commenced. The pontoneers worked from one shore, the sappers from the other; whilst the sailors rowed up the boats and assisted to secure them in position. The boats, fixed with a clear bay of twenty feet between, gave for each of the series about forty feet of bridge. The breadth for the roadway was eighteen feet six inches. Wood was scarce at the spot, and the timbers for the superstructure in great part were obtained from Sistova and Widdin. Intended for heavy service the bridge was made of massive baulks and stout oak planking, strongly bolted, cramped, and racked. Much "difficulty was experienced in securing some of the boats in the more rapid part of the stream, but by mooring them with four anchors each, and the aid of heavy ordnance sunk above the boats and securely fastened to them," they stood against wind and surge, firm and unbroken.\* "It was completed on the 4th August, and on the 5th received some damage from the first Austrian steamer that passed during the war. This was soon repaired,\* and to obviate a similar casualty, an opening was contrived to permit the navigation to continue, which, when not required, was closed up again by a moveable jraft to make good the bridge. In appearance it was as artistic and elegant as useful. The longest boats occupied the centre, from which the smaller craft gradually fell away to the two shores.

\* The 'Times,' Sept. 15, 1854. \* Ibid.

Like ancient galleys they were shaped with stems and prows curving gracefully upwards from the water\* and the bridge was no unworthy rival of the celebrated one formed by Xerxes, in his passage of the Hellespont at Abydos. "On the 10th Omar Pacha opened it in person, and complimented the officers and men for the zeal and ability they had shown in its construction. Captain Bent was in command of the sappers."/ For the ceremony two triumphal arches of evergreens were run up, one at each end of the bridge, and above them proudly waved the allied banners of England, France, and Turkey. To crown the service, both French and English met in unmixed cordiality and friendship, at a costly repast provided by Omar Pacha.

No longer required for service with the force of his highness, eighteen of the detachment returned, on horseback, to Varna, under Lieutenant Pratt, R.E., passing through Turtukai and Silistria, where joining the English seamen, they quitted it again on the 15th August. At night, after a march of twenty miles, the party halted at Kinarjik. On the next day a further march of thirty miles found them encamped at Karapelt; another thirty took them to Karayal, where a sapper who had died on the route was buried. A beautiful spot was selected for the encampment, and at sunset the deceased was interred in a hastily excavated grave, beneath the sombre shade of a wild pear-tree.\* All the officers and men were present,



and from the absence of all display, and the fatigued, rusty, and travel-stained aspect of the men, the ceremony was impressive and mournful. On the 18th August, travelling fifteen miles that morning, the sappers reached head-quarters, and rejoined the tenth company. Corporal Swann, who had been appointed by Lord Raglan provost-sergeant to the mule drivers at Rustchuk with a salary of 4s. 6d.. a-day, returned to Varna with the party.

\* The 'Times' Sept. 15, 1854. \* *ibid.* \* *Ibid.*

Not without mortification it is necessary to introduce in this place a record relative to the misconduct of the Rustchuk detachment. Honoured as they were by being the only British soldiers selected for an advanced frontier duty, much was expected from their conduct and exertions ; but their extreme irregularity and drunkenness, with few exceptions,\* offered a striking contrast to the behaviour of the party of sailors and the Turkish garrison. To mark therefore the displeasure of Brigadier-General Tylden, he subjected the detachment to a course of severe discipline, and stopped the promotion of some of the non-commissioned officers. Several men of the seventh company also, who had commenced a career of intemperance at Hurst Castle, behaved with equal discredit, and disgusted their officers. It is a pity in a corps possessing the advantages of education, skill, and mechanical attainments, that there should exist anything to tarnish the fame the well-intentioned are striving to brighten.

As a set-off against this censure, it is well there is occasion to give place to an instance of individual good conduct, as honourable as meritorious. Varna was set on fire by some Greek incendiaries, instigated by Russian agents, and was only extinguished after much of the city had been laid waste, and considerable munitions destroyed. Brigadier-General Tylden directed the operations for saving the town. The companies of sappers, being on the south side of the bay, were not present, but lance-corporal James Cray, whose services under Lieutenant Burke have been already noticed, acting as the Brigadier's orderly, lent material aid by his intrepidity in arresting the flames. "When the danger was greatest," says the official report, "and the spreading flames threatened to reach the large Turkish powder-magazine, Corporal Cray laboured voluntarily and incessantly, by mounting scaling-ladders and closing the openings with blankets, thus not only largely contributing to the safety of the magazine, but setting an example to the sailors and others assisting, which was of the greatest service." He was promoted to be second-Corporal for his conduct.

\* Sergeant John F. Read, Corporals William Harding, William Swann, and privates Robert M. Rylatt, Michael Westacott, and John Piper.

Captain Bent with fifteen non-commissioned officers and men left at Rustchuk under Omar Pacha, accompanied the Ottoman troops into the Wallachian principality, entering the capital on the 22rd August. Corporal Harding, a zealous and able sapper and pontoneer, died that day from cholera on the line of march, and was buried in the graveyard of a small country Greek church. His remains, covered with a union jack, were attended to their final resting-place by all the Englishmen in Bucharest, and the service was read by Mr. Meyer, a missionary clergyman. A private was attacked by the grave of his comrade, and returning to his tent, soon afterwards died. He was buried in the Lutheran churchyard. Several other choleraic seizures occurred in the detachment, which were ascribed to the intemperance of the men, and their imprudent use of fruits. No British soldiers, save this small party, served during the campaign in the Wallachian capital.

The fourth company from Malta, under Captain Craigie, reinforced the corps at Varna on the 14th August, and a detachment of the third company at Corfu was also sent thither, arriving at the head-quarters on the 25th August. They were ordered from their respective stations to the seat of war by Lord Raglan.

1854—1855.

## CRIMEA.

Instructional operations — Embarkation for the Crimea — Landing — Alma - March to Balaklava ; Sir John Burgoyne ; services of the third company — Corporal Macqneen and private Brennan — Encampment at Balaklava — Removal before Sebastopol ; misery from the want of tents — Upton's aqueduct—Tracing the lines — Position on the heights; staff engineers— The attacks ; parks — Sapper brigades — Reliefs — Breaking ground— Duties of the sappers— Progress of the works ; party wanders from the trace— Sergeant J. Morant misses his way ; a sortie frustrated — Night before the bombardment; storming parties of sappers — The batteries - Opening the siege — Injury to the works ; their restoration— Gabions, &c.— Platforms— Magazines — Battle of Inkermann— Submarine divers — Hurricane of the 10th November ; wreck of the 'Prince '—and the ' Rip Van Winkle \*— Effects of the storm on shore— Lines of Inkermann — Field electric telegraph— Sergeant Anderson— Reinforcements; first company at Balaklava; divers — Services of party with the Turkish army ; Omar Pacha's acknowledgments — Bridge over the Danube — Sickness — Warm clothing — Strength of the sappers in the East — Casualties— Sergeant James Drew— Private Andrew Anderson— Conduct of the corps in the campaign.

Preliminary to active operations in the Crimea, the companies of the corps at Varna superintended contingents of the line in preparing a park of gabions, fascines, and sand-bags for siege purposes. Each sapper at the duty had charge of fifteen men of the line, divided into three squads of five in a squad. The troops were also practised in the hasty formation of field-works ; and these instructional services were not without profit to the men of the corps, who, as overseers, superintend their execution.

Early in September the allied forces embarked for the Crimea, and the naval arrangements for the occasion, though vast and complicated, were comprehensive and perfect. To each of the British divisions was attached a body of sappers and miners, bearing with them intrenching tools. Up to this time there had landed in Turkey six companies of the corps, mustering a force of 513 non-commissioned officers and men, which had been reduced to 492 men by the decease of 21 noncommissioned officers and privates, chiefly from cholera and exposure. Leaving the seventh company at Gallipoli, also detachments at Varna, Redout Kaleh, and Bucharest, and the sick on board the transports and at Scutari, the force of sappers and miners that landed in Kalamita Bay on the 14th and 15th September counted a total of 308 of all ranks.

Under a teeming rain the companies debarked, and without tents or covering, took up a miserable bivouac with their divisions. In the night they lay huddled together for warmth while the storm beat ceaselessly upon them, and turned their selected resting-places into pools and quagmires. The returning day found them drenched, stiff, and comfortless; but in none, except those poor enfeebled fellows still suffering from the pest that had proved so fatal to the troops at Varna, was there wanting a cheerfulness to work, a spirit to master hardship, and a

determination to endure. Unsheltered as they were, that fearful weather brought on many aggravated cases of cholera.

On the 20th September was fought the battle of the Alma, which was gained in three hours by the allies, with a loss to the British exceeding 2,000 killed and wounded ; whilst the carnage amongst the Russians was even greater. The sappers and miners during the action were thus distributed : —

		No.
Head-quarters,	3rd Company.	.. 36
Light division,	10th »	.. 62
1st „	11th	.. 62
2nd „	8th	.. 77
3rd „	4th	.. 34
4th „	4th	.. 35

The fourth division was not engaged, being in reserve ; but the sappers with the other divisions, though not called upon to participate to an extent that placed them in much danger, were under fire. The companies were held back, ready with their intrenching tools, to perform any service for which they might suddenly be required ; but the daring advance and overpowering prowess of the British rendered a resort to field-works as a means of defence wholly unnecessary. During the action, the eighth company, attached for the moment to one of the field-batteries, assisted in dragging through the river some field-carriages belonging to the royal artillery, one of which, having become disabled, capsized in the stream. The third company rapidly repaired the broken timber bridge of Buliack, part of the sheeting of which had been removed by the Russians, leaving the end on the side of the British untouched. Had this artful contrivance not been discovered, the troops would doubtless have suffered fearfully in their attempt to cross the bridge.

On the night of the 20th the companies bivouaced on the site of the battle, where one of the privates, worn out with disease and fatigue, covered himself with his blanket and died. Resuming the march, the allies passed the Katscha on the 23rd September, on which day the third company, attached to the headquarters of the army, was reinforced by the arrival from Woolwich of 66 non-commissioned officers and men under Captain W. M. Inglis, R.E. Two days later the march was continued across the Belbec, and on the 26th to Balaklava by a bold flank movement through a difficult and thickly-wooded country. Sir John Burgoyne passed a night in bivouac with the company, and all that could be got for him to rest upon was an old door. Upon that the aged warrior stretched himself with a composure and satisfaction that showed how well he had braced himself to the vicissitudes and hardships of war. On the way the baggage of a Russian division, spreading over a vast extent of road, fell a prize to the British army. The third company was hurried to the front with the artillery to remove it, and tumbling the waggons over the hill they broke in fragments in the valley.

When the army pushed forward the third company remained, blew up a magazine of thirteen barrels of gunpowder which was found with the train of baggage, and then hastened to Balaklava. All the companies arrived there on the 27th September, and were at once disposed of in making roads, sinking wells, and repairing shattered waggons, while the third company made good a pier at Balaklava, at which were landed the heavy ordnance, ammunition, and siege stores.

It being necessary to despatch letters from the first division to that of General Cathcart's on the heights S. W. of Sebastopol, Corporal John Macqueen and private James Brennan were sent on the duty. Losing their way, they were allured by a glimmering light into the Russian lines, where they determined to remain till an opportunity offered for their escape. Under some of the enemy's works they lay down unperceived ; but early in the morning, as they were preparing to decamp, a Russian guard observed them. The sappers, unarmed, ran at a speed much accelerated by the danger of their situation, pursued by some swift-footed sentinels. A wide ditch interrupted their course, and just as they were bounding high over it they each received a bayonet thrust in the body. The Corporal was transfixed, but the private was only slightly wounded. The Russians, wanting the agility to leap the yawning moat, were stopped in the pursuit, and the resolute private gathered up his comrade and bore him from the ditch to the British camp, where the poor fellow soon afterwards died of his wounds.

The royal engineers formed their encampment on the S.S.E. of the harbour of Balaklava, whither the siege material was conveyed. With great promptitude, guns and ammunition, gabions, fascines, sand-bags, and tools of all descriptions, unsurpassed in magnitude, were collected, and then despatched to the depot about four miles nearer to the scene of operations.

On the 30th September a strong force of sappers moved to the ground, and soon commenced those services which the public, too enthusiastic in its anticipations, expected would reduce a fortress of unexampled strength in a few days.

Full twenty days the companies were without tents, their camp equipage having been left in the ships which conveyed the sappers from the shores of Bulgaria ; and, exposed as they were in bivouac to the damp and chills of night, many robust and able men fell a prey to cholera at Balaklava, or predisposed, by these early trials and rigours, to disease, were struck down by suffering and exhaustion in the camp before Sebastopol.

Meanwhile a party of twelve sappers, directed by a subaltern of the royal engineers, repaired to a ravine, and cut off the main aqueduct which supplied the fortress with water. This was known as Upton's aqueduct, and the perilous attempt was fortunately effected without opposition.

A few days later some sappers, pushed forward under their officers, assisted to trace the required parallels and batteries in front of the fortress towards Chersonese Bay ; and although at times within rifle-range of the walls, were unmolested by the Russians. It was at first intended that the English troops should occupy this position, but in consequence of the tools of our allies being too light to carry out the heavy intrenchments assigned to them on the right, the disposition of the forces was altered to adapt them to the situations for which their material seemed to render them adequate. This change in the arrangements was followed by the preliminary duty of tracing the sites of the required trenches and batteries inland, in which some sappers were permitted to participate.

Charged with the right attack, the British held the position which approached the Tchernaya valley, while the French spread in a curve to the left, as far almost as Chersonese Bay. Sir John Burgoyne conducted the British portion of the siege, supported by Colonel Alexander, Major J. W. Gordon, and many officers of the corps. Colonel Alexander, from

overwork and anxiety, soon died, and the executive direction of the works devolved on Major Gordon. In time the veteran engineer Sir John Burgoyne, recalled to England to discharge the responsible duties of his home appointment, was succeeded by Major-General Jones, who had received honour and promotion by his distinguished services in the capture and destruction of Bomarsund. Major Gordon now commands the companies in the Crimea as a regiment ; Captain C. B. Ewart fills the appointment of adjutant, and Lieutenant A. Leahy that of quartermaster.

The British force was divided into two attacks, called " right " and " left," their contiguity being broken by a deep ravine. The right abutted on the heights of Inkermann, and the left leaned away to the position of the allies. No longer attached to divisions, the fourth, eighth, and tenth companies of sappers were appointed to the right, and the third and eleventh companies to the left. The united strength of the companies amounted to a force of about 350 non-commissioned officers and men. On the high road leading from Sebastopol, and near the windmill, was stationed the engineer depot for the right attack ; while that for the left occupied an area in rear of the third division, on a plateau adjacent to the artillery depot. At both the parks, the carpenters, sawyers, and blacksmiths of the companies carried on the mechanical requirements of the operation unprotected from the weather. In order that the sappers might be easily distinguished in the trenches, they were ordered to wear a band of white tracing tape round the forage-cap.

The strength of the brigades of sappers altogether depended upon the exigencies of the duty, and the numbers available for work. As a general rule, however, each brigade of sappers comprised a non-commissioned officer and eight privates ; and each brigade of carpenters a non-commissioned officer and three privates. Whatever may have been the changes in the distribution of the men, there were seldom less at work, on the right, than three brigades of sappers and two of carpenters by day ; and two of sappers and one of carpenters by night ; while on the left, where a diminished force was employed, the arrangements only permitted for the daily routine two brigades of sappers and one of carpenters ; and, for the night duty, one brigade of each.

Usually, the brigades remained twelve hours in the trenches, being relieved at daybreak and soon after dusk ; but this period of duty, on many occasions, was necessarily prolonged, when any pressure required particular works to be completed in haste. Fatigue and sickness caused very inconvenient fluctuations in the numbers disposable for the operation ; but when less vigour was demanded in the formation of the lines, the men were relieved from duty in the trenches for three or four days at a time — the interval being filled up with labours in the camp, and in the performance of a variety of services subsidiary to the siege.

At nightfall, on the 7th October, ground was broken before Sebastopol, and by order of Lord Raglan, the working parties, after receiving the necessary tools and instructions, were marched from the park, guided by engineer officers and sappers, to the trenches. This proceeding was followed throughout the siege ; and it was also a practice to send both sappers and operatives into the batteries unarmed, to prevent the paramount work of the lines being neglected for the more natural one of resorting, on any slight instance of alarm, to measures of personal defence.

Acting as overseers, it was the province of the sappers and miners to instruct the line and the Turks in forming the trenches and batteries, attending themselves to the more

constructive portions of the works requiring art and skill; — such as laying the gabions, fascines, sand-bags, and platforms ; erecting the splinter-proof magazines, and sloping and lining the embrasures. Formidable obstacles occasionally offered serious impediments to the progress of the excavations, for the soil was rocky: to overcome the difficulties, the sappers led the way with an earnestness and zeal that stimulated the workmen to activity and exertion; but such was the sacrifice of useful energy, that many a brave fellow, already enfeebled by overwork, scanty rations, and hard weather, faltered from the trenches never more to return.

Everywhere the lines continued to be prosecuted with commendable rapidity, and to claim even the fastidious attention of the sappers with regard to the smoothness and accuracy of the slopes of the interior revetments and the sharpness of the angles. There were times, however, when, from the guiding sappers missing their way to the appointed hill, the works were somewhat retarded in their execution. An instance of this kind occurred on the 11th October, when some sappers, sent to throw up a battery in front of the light division, could not discover the position. Although the night was stormy, and the cold keen and biting, they endeavoured for more than two hours to find the trace, passing from one bleak hill-top to another ; but finally seeing the fruitlessness of their efforts, they quitted the front and returned to the depot.

A more serious mistake occurred the next night, when, with two brigades of 400 men, it was intended to break ground on the brow of a hill to the left of the light division. Sergeant Joseph Morant and seventeen sappers preceded the workmen. By one of those accidents which not unfrequently happen in night adventures, the sergeant lost his way, and led the detachment close to a Russian outpost. Alarmed, the enemy's picquet at once fell back on the main body, and then opened a smart fire upon the wandering sappers. This unlooked-for warning prevented them from rushing to certain destruction, and being unarmed, they prudently retreated to the lines, relieving themselves as they ran of such encumbrances as were likely to impede their haste. Their greatcoats and intrenching tools were therefore left behind; and the distance between them and the enemy being only a few yards, it is somewhat extraordinary that not a man of the party was struck. This mishap was not without advantage, for it frustrated the execution of a sortie which was then preparing. From the flashes of the Russian fire, strong battalions of infantry could be seen moving towards our works, to repel which the second and light divisions at once turned out; the riflemen too, always ready, poured a destructive fusillade into the advancing battalions, and the artillery, never from their posts, saluted them with volleys of shot and shell. For nearly an hour the combat lasted, when the enemy, flying before the rush and cheer of the 88th, took shelter under the walls of the fortress, keeping up, however, for the rest of the night a desultory fire upon the works. The loss in the trenches was trifling, and our batteries, which were much exposed, remained intact

Notwithstanding this attack, the trace of the new battery was that night discovered, and some little advance made in its construction before the morning. It was afterwards known by the name of the "Gordon Battery."

By the 15th October the vigilance of the working parties had placed the lines in so forward a state that, on the following evening, orders were issued to the troops respecting the bombardment. No exertions were spared throughout the night to complete the works in every detail, and the sappers, being told off into storming parties of twenty men each under an officer of the corps, were attached to the several divisions of the army to lead the way in any enterprise in which their professional services might be demanded. For this purpose they

were furnished with picks and shovels to form lodgments ; crowbars, felling axes, and sledge-hammers to remove impediments ; bags of gunpowder for blowing in gates; and scaling ladders with which to storm walls and towers.

Four distinct works had been erected, mounting about seventy guns, including Lancasters, which, during the siege, were increased or diminished according to circumstances. The chief batteries — named after the officers of engineers who superintended their construction, held a position on the heights at a distance exceeding 1,300 yards from the Russian lines, while the French, working in easy soil, pushed up much nearer to the fortress by the usual process of sapping and mining. On the part of the English the plan of attack was necessarily a departure from the recognized rules, owing to the rocky character of the ground, and the deep glens which separated the works. Later in the siege some intrenchments, by the ordinary means of approach, had been thrown up considerably in advance of the 'Chapman ' and 'Gordon ' batteries, with a view to establish other batteries to insure a more destructive effect on the enemy's defences. The guns, however, were not in position when the last accounts left the Crimea.

On the morning of the 17th, under cover of the darkness, the embrasures of the batteries, blinded with gabions, were quickly unmasked by the sappers, and before the dawn had fairly opened, at least seventy guns belched their fire upon the fortress. By a preconcerted signal the French commenced the siege simultaneously with the English, and the allied navies took part in the contest. This was the first day's firing on the part of the besiegers, and although the garrison kept up a warm cannonade upon the allies from the moment that any show was made in the construction of the trenches, the Anglo-French never once attempted, by the discharge of a single piece of ordnance, to lessen the interference of the enemy, or to interrupt the progress of their defences.

From both sides the cannonade was continued with more or less vigour according to the nature of events, and the result evidenced only too plainly the devastating effect of the firing. Our batteries were much damaged, but those of the enemy were in some places almost demolished. There was much skill, however, in the Russian engineers, and before morning, by extraordinary exertion, the works were restored and replaced with guns. No less energetic were the English sappers in strengthening the lines and repairing the batteries ; for although erected with admirable solidity, the shells from the fortress ploughed up the works and tore down the embrasures. In all such cases, if the restoration could not be deferred till night, the sappers, with a daring equal to their usefulness, would spring into the openings, and while exposed to the hottest of the fire, make good the breaches.

When the soil from the excavations was insufficient to fill the gabions, earth was brought for the purpose from the rear, in baskets. The sand-bags, ready for use, were also brought from the park, where the earth could readily be obtained. As they frequently caught fire and burst on the explosion of the guns, a substitute was found by making the bags from the skins of sheep and from bullocks' hides, which stood the rough work remarkably well. The inner necks of the embrasures were revetted with sand-bags and the cheeks lined with fascines. The basis of all the works was the never-failing gabion.

It was not long before the Madras traversing platform, considered to be the specific for a great siege, was shown to be a failure. From the hard and uneven bottom of the trench the platforms were, to save them from injury and secure their efficiency, laid upon sand-bags well tamped, but the violent and sudden action of the guns in their recoil shivered the platforms to

pieces. A rude substitute was expeditiously furnished by tearing down some dilapidated wooden houses in the neighbourhood of the camp, and resorting to the old expedient of sleepers and floors, the platforms, so prepared by the sapper carpenters, were found to be far less liable to derangement than the engineering exotic from Madras.

While the Russians and our allies experienced very heavy losses in the destruction of their magazines, no accident whatever occurred to the English powder-magazines, "although more than once exposed to the test of the fall and explosion of a twelve-inch shell."\* Offering, as the record does, a tribute of credit to the efficiency of the contrivance, it is no less a testimonial to the skill of the sappers, who, in consequence of the special nature of the service, constructed the magazines themselves.

Neglecting to erect earth-works to defend the right of the position towards Inkermann led to an attack by the Russians, which was met and repulsed with vigour on the 26th October, by the division under the command of Sir De Lacy Evans. Another attack followed on the 5th November, in which the English and French, numbering about 14,000 bayonets, were opposed by an army of nearly 60,000 fighting men. For upwards of ten hours the conflict lasted, and ended in a victory to the allies, while the Russians, driven from the hills at all points, took refuge in flight. The losses in the Anglo-French ranks were very severe, but those of the enemy, incredible as it may seem, far exceeded the total force of the allies engaged. This splendid achievement, in which the soldiers stood against overwhelming odds with unconquerable firmness and bravery, will ever rank in the annals of war as one of the most remarkable struggles of modern times. Occupied in the trenches, and forming a guard over the engineer park, the sappers and miners did not fire a shot in either of the engagements.

\* Quarterly Review,' vol. xcv., p. 239.

They were, however, drawn up, prepared to defend the siege dépôt had the Russians penetrated to the engineer plateau. Being in position during the battle, the sappers and miners have been considered entitled to the Inkermann decoration, and 341 non-commissioned officers and men of the corps present on the occasion will have the honour of wearing the clasp.

When the Russians learnt that a descent was to be made on the Crimean coast, they sank several of their large war vessels and blocked up the passage into the harbour of Sebastopol. Since nautical skill and manoeuvring were confessedly unequal to master the difficulty, submarine blasting was proposed as the readiest and most effectual method, and four sapper divers, selected from volunteers at Chatham, accompanied by the necessary apparatus and stores, sailed in the ' Prince ' on the 27th October, and arrived in the harbour of Balaklava on the 7th November. Several other sappers, then before Sebastopol, who had been practically trained in the art by actual service in the demolition of the wreck of the ' Royal George,' were to have been engaged in the perilous duty.

About this period the weather set in unpropitiously. Snow was upon the ground, and sometimes rain, sleet, and hail varied the inclemency, while frost intervening, nipped the men with its cold grasp, and added to their sufferings. The prevailing aspect of the clouds was gloomy and lowering, but there was nothing to indicate the approach of that memorable storm, which on the 14th November, swept over the Black Sea and the Crimea. Early in the morning the hurricane began its portentous howling, and it was not long before it committed terrific havoc at sea. Ingenuity and precaution did much to save the ships from disaster, but many of the transports, too soon becoming unmanageable, were engulfed as by a spell in the



raging surf, or broken to pieces on the shore.

Among these was the 'Prince,' a magnificent steamer of heavy tonnage, freighted with winter clothing for the army and the diving machinery. For two hours she stood bravely against 'the storm, but at length driven against the rocks at Balaklava, her timbers were rent in every direction, and she went down. The four sapper divers on board of her sank in the wreck, as also Captain W. M. Inglis, who had been observed on a spar struggling to gain the shore, when a wave of foam broke over him and he was seen no more.

A like fate attended the 'Rip Van Winkle;' and the two sapper photographers, well educated and trained at a great expense in the art, perished in the foundered vessel. The knapsacks and kits of the eighth company were also lost.

On shore the hurricane was not so calamitous, but the tents were all torn up and blown to a distance. Only one solitary marquee remained to mark the site of the encampment. In common with the army the sappers and miners felt the shock of the storm, and were left shivering on the heights, unclad and comfortless. Those in the trenches experienced equal misery, but their zeal in the prosecution of the works was only checked by the fury of the raging wind and the deluging rain. The road to Balaklava soon became one long morass, and both man and horse, in travelling to the port, had to wade the distance up to their knees in mud. From this time the suffering and privations of the troops considerably increased in extent and severity; but, borne with uncomplaining endurance and fortitude, earned for them the abiding admiration and sympathies of their countrymen.

Soon after the fight at Inkermann, parties of the corps were allotted for the duty of raising appropriate field-works to protect the right; and to expedite the project, the seventh company under Captain Gibb was removed from Gallipoli to take part in the operation. Arriving at Balaklava on the 28th November, the company reinforced the camp before Sebastopol on the 2nd December. Until the 17th, it was employed in the work of the trenches forming the 'right attack' but on the following day it moved to the heights of Inkermann to complete the approaches against the town, and to erect batteries to oppose those of the enemy on the side of the Tchernaya.

At these lines the sappers worked only by day; and later in the siege the officers of the corps, finding that the progress of the works was much facilitated by augmenting the number of sapper brigades for day duty, reduced the employment of the sappers by night to one solitary brigade. The beneficial effect of this change was very apparent, for while the sappers actively carried out the business of overseers, their numbers and habits of industry made them cheerfully turn to the general labours of the lines.

Two sappers in charge of the field electric telegraph for service in the Crimea, arrived at Balaklava on the 7th December, and repaired to the camp on the 17th, taking with them the instruments, batteries, insulated wire, and appliances, packed in two waggons. Twelve coils of wire, each a mile long, were packed in them, as also a subsoil plough, appropriate tools, and boats. The apparatus is only available for short distances and can be worked by six or eight men. To establish a communication between any two points, the wire, which uncoils from a drum revolving horizontally in a carriage drawn in advance, is laid in a shallow trough made by the plough, which serves the double purpose of cutting the furrow and depositing the line. The trough is just deep enough to protect the wire from ordinary accidents. Equally effective is the apparatus for communication with vessels at sea; and on any sudden removal of the army from one position to another, the wire can be so easily taken up that the men in charge

of the telegraph are not likely to be embarrassed in any movements that may be determined upon. The two sappers were specially instructed in the electric telegraph establishment at Lothbury in the mode of working the instruments, laying the wire, and in the ingenious manipulation required to give effect to the process.

Such, however, has been the state of the weather from snow, that no opportunity has yet occurred of employing the telegraph ; but regarded as an important appendage to the army, sergeant James Anderson \* and two privates have since been educated in the art, so that when the time arrives for using it, there will be an adequate staff of operators to attend to its scientific details.

\* his non-commissioned officer wrote some graphic and interesting letters about the siege, in one of which he says, — " After setting my working party to their task in the trenches, I went to the front to show Corporal Kirkwood — a new arrival — the extent of our works, and to give him an introduction to Sebastopol. The trench in some places not being deep enough to cover us, we sometimes had to run along the top, and whenever we did so, the enemy peppered us well with grape and rifle bullets at about 300 yards. So I borrowed a Minie rifle from the 38th, and returned the compliment. This was the first time I had ever fired at a human being. Two 38th men loaded for me as fast as I could fire, and we soon cleared the embrasures of the Russian gunners ; but they shot my comrade — a sergeant of the 38th — at my side. I bound up his wound with my handkerchief, and fired away again with his rifle. I have had many narrow escapes and much hard work, but I feel truly thankful to the Almighty for having brought me through all without a scratch. I hope soon to write to you from the Imperial barracks inside Sebastopol. I hope," says he, again, " we shall soon be allowed to storm. I could lead a party in by a short cut that I know of, and I think it would soon be over and the place ours." The letters from which these extracts are taken were kindly lent for my perusal by an officer of the corps.

The second and first companies subsequently reinforced the sapper strength in the Crimea, landing respectively on the 20th December 1854 and 7th February 1855. The former was forthwith added to the 'right attack,' and the latter was retained for engineer services at Balaklava, chiefly in the removal and construction of the huts. The employment of the company at this port was considered sufficient for its requirements, and the detachments hitherto cantoned there, were recalled to their companies at the siege. Two sapper divers arrived in the 'Robert Lowe ' on the 4th January 1855, under the command of Captain De Moleyns, having in charge Mr. Rendel's loaded cylinders to be applied for blasting the sunken ships at the mouth of the harbour.

The small detachment under Major Bent of the engineers joined at the camp about this time from Bucharest, marching with the Turkish army ; and the following despatch from his Highness Omar Pacha, so complimentary to its efficiency, was communicated by Lord Raglan to the Minister of War : —

My Lord, Varna, January 8, 1855.

His Highness Omar Pacha has requested me to write to your lordship, to return his best thanks for the services rendered to his army by Major Bent of the royal engineers, and the detachment of sappers under his command. His Highness desires me to express his regret at the losses which have been sustained by this small detachment who, under the direction of Major Bent, have well sustained the character of the British army.

His Highness has already expressed to your Lordship his regret at the loss of Lieutenant Burke, of the royal engineers, whom his Highness considers to have been an officer of much merit.

His Highness desires me to inform your Lordship, that he has done himself the honour to write to the Turkish Ambassador at the Court of St. James's, expressing the desire of His Majesty the Sultan that private Andrew Anderson, of the royal sappers and miners, may receive and wear the decoration of the fourth class of the order of Medjidie, in commemoration of his gallantry in recovering the body of Lieutenant Burke, after he was killed at the passing of the Danube on the 7th of July last. In the meantime he has presented private Anderson with the decoration, and trusts your Lordship will allow him to wear it until the commands of Her Majesty may be received.

His Highness further desires me to express to your lordship his entire approbation of the manner in which Major Bent has conducted his duties.

He desires me to inform your lordship that this officer showed great energy in his endeavours to enter Silistria before the siege was raised ; that he subsequently showed great gallantry at the passage of the Danube, when he was the first to land on the left bank, and covered the landing of the Turkish troops with a detachment of riflemen, who maintained their ground under a heavy fire until the disembarkation of the supports was effected.

Major Bent and his sappers were subsequently of great service in throwing up the *tête de pont* at Ginzgero, and in the construction of the bridge across the Danube.

His Highness desires to take this opportunity of expressing to your Lordship his high sense of the services rendered by Lieutenant Glyn, R.N., and H. S. H. Prince Ernest of Saxe Leiningen, with the detachment of sailors of Her Majesty's fleet under their command, in the construction of the bridge across the Danube.

His Highness considers that the success of the construction of this bridge is in great measure attributable to their well-planned dispositions, which, although executed with limited means, proved fully effective to resist the storms and strong currents of the Danube.

He desires me to say that he is fully satisfied with the zeal and indefatigable energy of this detachment of Her Majesty's fleet under the able direction of Lieutenant Glyn, whom he considers a very promising officer, and entirely worthy of the confidence of your Lordship.

His Highness desires me to add, that it would be very gratifying to him if Her Majesty could in some way reward these officers for the able services they have rendered to the Ottoman army and the common cause.

I am, &c.,

(Signed) J. L. A. Simmons, Lieut.-Colonel.

Field-Marshal Lord Baglan, G.C.B., &c.

The bridge alluded to across the Danube was constructed under the direction of Major Bent by the sappers and miners and a party of French pontoneers. The duty of the seamen

was confined to the nautical arrangements for the undertaking, which comprised the labour of bringing the boats, anchoring them in their places, and securing them stem and stem.

From the laborious nature of the duties in the trenches, the sappers were absolutely ragged ; and as the frost had set in, late in December, with unusual rigour, it is surprising that they possessed stamina and spirit enough to bear up against the exposure to which they were subjected. Nevertheless the sickness was trifling compared with the appalling details of casualties reported in other corps; for, on the 1st January, out of a strength of 628 non-commissioned officers and men, only ninety-two were in the field-hospitals and at Scutari. Diarrhoea, fever, and frostbite were, however, very prevalent during the month, and the increase in the sick was considerable. In that period no less a number than 273 had been under treatment, exclusive of the invalids sent to the hospitals on the Bosphorus.

As soon as it was determined to provide the troops with winter clothing, an ample supply was furnished for the sappers and miners, at an expense of 4,260/., which enabled the following articles to be issued to each man : —

- 2 pairs of worsted stockings.
- 2 pairs of woollen drawers.
- 2 pairs of woollen mitts.
- 2 woollen guernseys.
- 1 woollen neck-comforter.
- 1 blanket-cover.
- 1 railway-wrapper.
- 1 fur cap.
- 1 overcoat
- 1 pair of long boots.

All the articles were excellent in quality, strong, warm, and adapted to the Crimean climate.

Including thirteen men sent from England in separate vessels in charge of the portable huts for the troops, the total number of the corps that landed for service in the East amounted to 817 of all ranks. Of this number, 735 had served in the Crimea.

The casualties reported during the campaign were as follows : —

Killed in the trenches .... 3 Privates Samuel Coles, William Denham, and James Billing.

Died of wonnds .... 2 Sergeant James H. Drew\* and Corporal Macqneen.

Perished by drowning .... 6 Sergeant William Carne, Corporal John Pendered,  
lance-Corporal John Hammond, and privates Samuel Lewis,  
Thomas Price, and Thomas Tooley.

Frozen to death .... 1 Private James Deacon.

Missing, supposed to have perished 2 Privates Thomas Callaghan and John G. Williams.

Found dead in his tent .... 1 Private Andrew Anderson.\*

Died from cholera, diarrhoea, &c. • 98

Total • • . 113

\* Was a well-educated and an active non-commissioned officer. For many years he was the confidential clerk of Sir Frederic Smith at Chatham, where associating himself with a temperance society, he became an able advocate of its principles, and received from its members a silver medallion in testimony of his talented lectures on the subject. After serving a few years at Malta, he was sent to the Crimea, and in the trenches before Sebastopol, he earned the good opinion of his officers for fearlessness, ability, and success as an overseer. On the 10th of November he was wounded at the siege by a shot striking his shoulder, and breaking his collar-bone. Removed on board the 'Avon,' he was much shaken in the storm of the 14th, and died on the 22nd of November, off Scutari.

\* Distinguished at the battle of Giurgevo for his gallantry. A fine, handsome soldier, he was admired by both officers and men. When work had to be done, he would toil like a slave to accomplish it ; and when duty demanded his services, he was never absent. His propensity to drink, however, placed it out of the power of his officers to award him promotion. At the Cape of Good Hope, he earned a medal for his services in the Kaffir war of 1846-7, and received another medal and a second-class prize for his conduct and usefulness at the Great Exhibition of 1851. He was employed in that duty at the instigation of Major Bent, who generously became a surety for his good behaviour. Well did he support the Major's recommendation ; but on his removal from London at the close of the Exhibition, he soon relapsed into his former habits. His bravery in the battle of Giurgevo is already told ; and the decoration of the order of the Medjidie, placed on his breast by Omar Pacha - a distinction never before conferred upon one of so humble a rank — failed to inspire him with sufficient pride to curb his excesses ; and there is reason to fear, that his melancholy fate was brought on by his infatuated indulgence.

The under-named men were wounded in addition to the two non-commissioned officers stated above ; —

#### Privates

James Brennan ; slightly, by a bayonet. , ,  
John Hntton ; slightly, in the head. , ,  
James Wheeler ; seyerely, by splinter of shell in shoulder and back of head. , ,  
James Bland ; dangerously, by a musket-ball in both thighs. , ,  
John Maclean ; slightly, by the bursting of a shell. , ,  
John Giles ; severely, by a ball in left clavicle, and collar-bone broken. , ,  
Robert McFarlane ; dangerously, by splinter of shell in the thigh. , ,  
David Cuthbert; severely, by explosion of a shell, in the right shoulder. , ,  
Thomas Gilchrist ; slightly, in the left hand, by a rifle bullet.

After the first week of opening fire the siege was carried on with more or less spirit as events dictated, but latterly the resistance of the besiegers has been almost passive. Protracted as it has been, no opportunities have occurred for the sappers to display their military qualities by individual acts of daring ; but, as far as the work of the trenches is concerned, it is not too much to say, that in their zeal, steadiness, and constancy, no troops in the world could surpass them. No more signal proof of their capabilities and usefulness need be adduced than the fact, that the works, under great difficulties, were erected with expedition and solidity. There is, however, one other point to add which bears a remarkable testimony to their efficiency. It must have been observed, that the casualties among the officers of the Royal

Engineers have not extended beyond one subaltern wounded. In the Peninsular sieges, the appalling losses in their limited number, was ascribed to the necessity which existed for their combining with their professional services, the practical duties of overseers and sappers. The men then required to be instructed in the art, in the presence of the enemy ; but in this siege, far exceeding in duration the most prolonged struggle in the Peninsula, the officers have, very properly, been relieved from subordinate employments by the intelligence of the sappers, who have not only conducted the works to their satisfaction, but have had the sagacity, by a rigid attention to system, to escape from more than ordinary casualty.

Curiously enough, by comparison with the hard-fought siege of Badajoz in 1812, the losses among the twenty-four officers engaged in it, exceeded those of the royal sappers and miners in the more extended siege of Sebastopol.

The above narrative of the Crimean campaign has been collected in fragments from various private sources, and is consequently very deficient in matters of detail and incident. No official statement of the services of the sappers has yet been rendered, the siege not having terminated ; but there is scarcely a doubt, when it does appear, that it will contain a just acknowledgement of their creditable exertions in the operation, and honourable mention of many who deserve to be known, for their skill, their labours, and the unshrinking discharge of difficult duty in times of peculiar trial and danger.